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ABSTRACT

The book of 20 papers from 12 telecasts on the education of gifted, talented, and creative students focuses on definitions, history, identification, self awareness, the need for a helping adult, enrichment, methods to promote creativity, and general issues in the field. The following titles and authors are represented: "Definition" (W. Stankowski); "The Exceptional Educational Needs of the Gifted" (S. Rimm); "Concern for Intellectually Talented Youths: How it Originated and Fluctuated" (J. Stanley); "Bernie" (G. Libster); "Gifted and Talented: An Identification Model" (C. Tongue, C. Sperling); "Characteristics of Creatively Gifted Children" (G. Davis, S. Rimm); "Fostering Creativity is Basic for the Gifted and Talented" (L. Dickmann); "Program Objectives for Gifted, Talented, and Creative Students" (P. Perrone); "The Alienated Gifted: A Problem to Self and Society" (B. Bickford); "A Qualitatively Different Program Defined: A Description of the Enrichment Triad Model" (R. Clasen); "Seven Sides of Symmetry: A Paradigm for Self-Concept for the Gifted, Talented and Creative" (L. Dickmann); "You Can't Teach Creative Writing" (M. Mohan); "Identifying and Nurturing the Intellectually Gifted" (J. Stanley); "Going Deeper: The Enrichment Triad Model Type III" (R. Clasen); "Going Wider with the Gifted Child" (B. Robinson); "Reflections on Creativity" (C. Pulvino); "Maximizing Creative Potential" (K. Bull); "Social-Psychological Characteristics of Achieving Black Children" (B. Shade); "The Gifted/Handicapped: Untapped Potential" (M. Kolton); and "Sex-Role Stereotyping: Its Implications for Gifted Women" (D. Clasen). (CI)

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Simple Gifts

THE EDUCATION OF THE GIFTED, TALENTED, AND CREATIVE

BOOK OF READINGS

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Book of Readings

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Definition*

In most instances, the identification procedures in a program for gifted and talented students evolve from the definition of gifted students. This places the process of defining gifted students into an important role when one is in the stages of planning a program.

Formerly the term "gifted" merely described children who scored high on the IQ test. Now the concept of giftedness has been expanded to include other dimensions such as creativity. For example, Gowan (1971) defined a gifted child as one who has the potential to develop creativity.

Carroll and Laming (1974) report that

> Defining giftedness is a timeless problem. Man has attempted to solve the questions of who are the gifted, and what abilities constitute giftedness for centuries. Progress has been made toward answering these questions, but there are no universal definitions as to what constitutes giftedness. The reasons for this confusion are many. The primary problem is a semantic one. Intangibles such as creativity, intelligence, aptitudes, and abilities are the criteria used to measure yet another intangible, giftedness. Schermann (1966) stated that it is not possible to define giftedness in terms of end products due to its multi-dimensional character (creativity, superior intellect, and many specific generalized abilities). The problem of defining and identifying the gifted child becomes very complex when the researcher is unable to list the many forms of giftedness. Schermann emphasized that speaking in terms of creative, intellectual, social, mechanical, and artistic skill does not tell the entire story. She summarized that being overawed by the complexity of giftedness can be likened to being overwhelmed by the richness and variety of human behavior.

As one looks through the literature on gifted education, it is apparent that many definitions are accepted and used. A partial listing would include:

-Those with special artistic and mechanical talents.

---

*Excerpted from "Identification of the Gifted Student." Prepared for the Pulaski Community Schools Title IV-C Gifted and Talented Program by W. Marq Stankowski, Ph.D., Project Consultant from the Motivation to Learn Center. Ron Retzke, Ph. D., Director, Pulaski Gifted and Talented Program.

-One with such a high measure of competency that he is able to learn more than the prescribed curriculum within the prescribed time under prescribed conditions.

-One who excels in creative thinking and abstract reasoning, has a wider scope of interests and produces work of superior quality.

-One with a high IQ.

-Those with unusually high mental capacity, with extraordinary aptitudes for school work, and with special talents for making superior contributions to society.

-A child whose mental, physical, and social traits are similar to those which are known to be representative of precocious children.

-One whose mental age is considerably higher than his actual age compared with children in the general population.

One cynical definition divides gifted children into three groups:

(a) those who have their hands up first and know all the right answers, or

(b) those who always finish their work first and then proceed to create havoc, or

(c) those who are clever enough to be at the bottom of the class if they want to be.

Lucito (1963) divided the definitions of giftedness into five classes. These classes are:

(1) ex post facto Definitions. The gifted are those who had achieved outstanding prominence in one of the professions (Anastasi, 1958; Cox, 1926). Also included in this class is the definition supported by Sumption and Leucking: The gifted are those who have shown consistently remarkable performance in a potentially valuable line of human activity. Definitions which are ex post facto in nature open the door to a wide variety of interpretations.

(2) IQ Definitions. The gifted are defined as those who scored at or above some point on an IQ scale (Terman, 1925, 1954, 1959). Kough (1960) reports that: "Many schools define giftedness as the ability

to achieve a given IQ score on a certain standardized group or individual intelligence test." The Educational Policies Commission suggests that those with IQ's of 137 or above be considered highly gifted, and that those with IQ ratings of 120-136 be considered moderately gifted.

On the subject of IQ scores and the gifted, Abraham (1958) states:

> Define the gifted child almost as you wish and you will find some authority to support your point of view.
>
> If you want to restrict your definition to IQ, and set the bottom figure at 120, 130, 140, or above, you will find plenty of support. If you want to move the base down to 110, you may find an austere an outfit as the whole United States Army on your side with its Army General Classification Test score of 110 used as one of the criteria for entry to the Officer Candidate Schools. Or suppose you want to leave IQ out entirely; you'd <u>still</u> be on safe ground.

Some of the problems of using intelligence test scores as a definition have been summarized by Gowan and Torrance (1971):

> Terminology continues to plague us. Some writers define the gifted by scores on intelligence tests. After defining them by IQ, however, there is no agreement in the level at which "giftedness" begins. Other writers define the gifted by scores on achievement tests. Here, again, there is no consistent cutting point.
>
> I found that if one identified as gifted the upper 20% of a given population on an intelligence test alone, he would miss 70% of those who would be identified in the upper 20% as gifted by a test of creative thinking.

Sumption and Leucking add that:

> . . . an acceptable definition of the gifted must recognize that present tests of mental ability may be incomplete or incapable of measuring the total spectrum of intelligence. If such is the case, then the I.Q. must be ruled out as the sole determinant of the degree of giftedness.

(3) <u>Talent Definition</u>. A third class of social definitions for giftedness was developed when the IQ criterion was dropped from some definitions and the term was broadened to include students who excelled in such areas as art and music. These students were termed "talented" (DeHaan and Havighurst, 1961; Witty, 1962). Some authors, such as Wood (1973) point out differences between giftedness and talent.

I prefer to think of giftedness primarily as academic brilliance and to define talent as an exceptional ability in music, art, drama, crafts, movement, sport, etc. Obviously there is much overlap and this can only be a generalization. Is a flair for painting, or skill on the football-field giftedness or talent - or, does it matter so long as it is discovered and developed?

(4) Percentage Definitions. A fourth group of researchers have used percentage definitions whereby as many as the upper 15-20% of a school population -- or as few as the upper 1-3% -- were considered gifted. For example, in her studies with the juvenile population, Hollingworth arbitrarily chose the top 1% of the population in general intelligence and tied her definition in with the ability to deal with abstract knowledge or symbols.

Kough (1960) reports that:

Another definition of giftedness seems to be growing in popularity among the schools that are establishing gifted child programs. This approach defines giftedness on the basis of a percentage of the student population of a school. Thus the top 15 or 20 percent of a class may be considered gifted and given special opportunities.

This method has some practical advantages. Much of the special work for gifted can be accomplished very effectively in small groups. Defining giftedness as a percentage of the student body automatically establishes such a group. Also, the percentage method seems to recognize the problems resulting from the wide range of intellectual abilities being served in the same classroom.

(5) Creativity Definitions. This class was stimulated by Guilford's factor analytical studies. Other pioneers (Getzels and Jackson 1958, 1962; Gowan 1971; Torrance 1970) used creativity as one of the criteria in their definition of giftedness.

Recent definitions on giftedness are more eclectic. In March, 1972, the U.S. Commissioner of Education submitted a report to the U.S. Congress entitled Education of the Gifted and Talented. In the document, an advisory panel defined gifted and talented children in the following manner.

Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding

abilities, are capable of high performance. These are children who require differentiated educational programs and for services beyond those normally provided by the regular school program in order to realize their contribution to self and society.

Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas singly or in combination:

1. general intellectual ability
2. specific academic aptitude
3. creative or productive thinking
4. leadership ability
5. visual and performing arts
6. psychomotor ability

Other definitions are not only multi-dimensional but also stress potentiality. Isaacs (1971) felt that the gifted child demonstrated or else had potential for superior originality, creativity, self-sufficiency, and mastery of knowledge. Lucito (1963) also emphasized potential intellectual abilities and a high ideational level in both productive and evaluative thinking. Lucito stated that the gifted were the future problem solvers, innovators, and evaluators of the culture if adequate educational opportunities were provided.

The necessity for a multi-dimensional definition is due to the nature of gifted students. As Torrance (1970) points out:

> If we know anything for sure about gifted children, it is that they are different. They learn different things in different ways, not just quicker. Some think better in numbers than in words, and they perceive and understand mathematical relationships more easily than verbal relationships. Still others are unusually skilled in manipulating spatial relationships and objects but are quite incompetent in literature. The ways in which gifted children differ in the ways they learn are almost infinite since each person is unique.

A word of caution is provided by Gallagher (1975) concerning definitions:

> No matter how elaborate and all-encompassing the definition of giftedness, the specific identification tools that are actually used are often the real determiner of giftedness in a school setting.

As we can see, there is no standard definition of giftedness. Differences in terminology and inconsistent criteria have been a persistent research problem for persons investigating education of the gifted. However, these variances also have certain advantages. Durr (1964) contended that the lack of standardized definition of giftedness may assist the teacher, administrator, or parent whose concerns are immediate and practical. He suggested that the lack of predetermined, rigid definition can assist those who deal with the gifted because their definition can be altered to fit the exigencies of the situation.

In summary, the following two paragraphs by Carroll and Laming (1974) are used.

> Giftedness can refer to a very narrow range of abilities. However, giftedness should be defined and treated in its broadest sense for two reasons. First, the more children who are identified as gifted, the more special provisions should be made by educators, diagnosticians, and legislators. If a child is not given a chance to participate in an enriched curriculum because he misses the cutoff score by one or two points, and is not given the necessary counseling and guidance to develop his talents and abilities, then we are throwing the baby out with the bath. Secondly, if our nation adheres to the creed that each individual should be allowed to develop to his maximum potential, then it is our obligation to see that each gifted person reaches fruition.
>
> No matter how one defines or measures giftedness, there is an even greater task at hand. This is the paramount task of identifying each gifted child and assisting him in realizing his potential. To settle for less, would be short-changing many children who could contribute meaningfully to our society and ultimately the world.

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The Exceptional Educational Needs of the Gifted

by

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The concept of exceptional educational need arises from the concept of a normal distribution of abilities in society. Youngsters at either end of this normal distribution have intellectual and creative abilities which differ significantly from those of most other children. They learn differently; they think differently and they need different educational programs to develop their potential. Society places a tremendous pressure on these students to function as much like "normal" people as possible.

For students at the lower end of the distribution, this takes the form of positive pressure. Special teachers and small classes are provided to help students at the lower end to develop their total abilities. Enormous resources are invested to provide for these children because society has made a commitment to helping them to function at their best.

For students at the upper end of the continuum, the pressure to act like "normal" people has a negative effect. Peer pressures, teacher pressures and even parent pressures act to encourage students to hide their abilities and to develop only to an "acceptably" high level, never too far beyond the "normal". The effect of this negative pressure is to obscure some student giftedness and to underdevelop the talents and gifts of many young people.

Gifted children need to be challenged. They need an exceptional education. If they are not challenged, there are several likely results. The stories below are real life stories and represent situations that are not unusual in schools and homes:

1. *Some children become behavior problems.*

> Bobby Meredith wasn't very happy in kindergarten. He teased his fellow classmates, did not complete his "reading readiness" assignments and frequently just refused to come to school. After Bobby failed his "reading readiness" test at the end of kindergarten, his mother was called in for a conference. Mrs. James, Bobby's teacher, suggested that Bobby repeat kindergarten. She indicated that he seemed like a

bright child but that he wasn't as mature as other kindergartners and certainly was not ready for reading. Mrs. Meredith knew Bobby was unhappy at school, but was surprised at the reading diagnosis. Bobby had been reading at home since he was three. On days when he was permitted to stay home from school, he spent most of his time reading.

2. *Some children "normalize" and hide their abilities in order to be accepted by their teachers and their peers.*

Denise entered first grade and was reading at a fifth grade level. Mrs. Brown, her teacher, suggested that Denise attend reading class with a second grade accelerated reading group. Denise's mother insisted that if Denise stayed in first grade she would be happy and would be reading at the "right" grade level after a few years. She was right. Denise is in fifth grade and is reading at about the same reading level as her friends. Denise is not even recognizable as having exceptional ability. She has learned to "adjust" and her special talent potential is probably lost to society.

3. *Some children are lonely.*

Jean's high school education was like "walking a tight rope." She was very careful about the words she used because she had already been told "that no one understood her." She was sure to make occasional errors on even the easiest exams so that her record didn't look too good. Although she had written some very exciting and creative term papers, she only gave some of them to her teachers. Her private notebook contained over 60 stories and poems which she had not shown to anyone. It was lonely in Jean's world where she knew her "real self" was not acceptable to her fellow classmates or her teachers.

4. *Some children are bored.*

Dan and Bob's third grade teacher recognized their unique mathematics ability and guided them through third and fourth grade mathematics during one school year. They enjoyed the challenge, the competition and the opportunity to learn math independently. When Dan and Bob entered fourth grade math, Mr. Rock, their fourth grade teacher, knew of their progress, but wanted to ascertain their fourth grade skills. Dan and Bob relearned fourth grade math for another full year and only remember how boring math can be!

Our schools need to prepare students who can contribute to society by leading in efforts to provide world peace by discovering a means of developing world energy resources, and by contributing to the humanities, sciences and the arts. Since society needs to have the talents of the gifted, schools must challenge gifted students to develop their excellence. The excellent contributions of these students provide society's greatest natural resource. We will find more gifted students in our schools, and they will contribute more to our society if the educational program supports their needs. Encouraging giftedness develops an environment of excellence which benefits all children. To provide a quality educational program for all children we need to provide a special program for the exceptional educational needs of the gifted.

Concern for Intellectually Talented Youths: How it Originated and Fluctuated

by

Julian C. Stanley

The author is a professor of psychology and Director of the Study of Mathematically Precocious Youth at The Johns Hopkins University, Baltimore, Maryland. After completing his doctorate in educational psychology and measurement at Harvard University, he went in 1949 to teach at the George Peabody College for Teachers and (part-time) Vanderbilt University. In 1953 he moved to the University of Wisconsin, where he helped found a department of educational psychology and was its first chairman. Also he started the Laboratory of Experimental Design at Wisconsin. In 1967 he moved to Johns Hopkins.

Dr. Stanley is a past president of the Divisions of Educational Psychology and of Evaluation and Measurement of the American Psychological Association, of the American Educational Research Association, and of the National Council on Measurement in Education. He is a Fellow of six divisions of the American Psychological Association, of the American Association for the Advancement of Science, and of the American Statistical Association.

He is the author, coauthor, or editor of 10 books and of approximately 275 chapters, articles, reviews, and research notes.

Even back into prehistory perceptive parents, relatives, and friends seem to have recognized great talents that might help the group in practical or aesthetic ways. The fledgling hunter who showed unusual skill, the youth whose drawings in the cave evoked admiration, and the apprentice shaman with great aptitude for magical rites were likely to find pursuit of their particular métier (in the sense of a "calling") encouraged. Often they were relieved of certain other responsibilities and given special training.

Before the days of compulsory education it was common for youths to be tutored initially in a variety of subjects, often by scholars now renowned in history. Those few who showed a flair for a particular area such as mathematics or languages might get further stimulation and pacing.

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* Taken from the Journal of Clinical Child Psychology, Winter, 1976, pp. 38-42.

Of course, children whose parents were wealthy participated far more in this type of one-to-one schooling than did most of the less affluent. There were, however, quite a few patrons whose impecunious protégés received splendid, prolonged assistance. Illustrations of such situations are contained in many books, e.g., Bell (1937), Cox (1926), Hesse (1906) Packe (1954), Schonberg (1970), and Wiener (1953).

One reads about how the nine-year-old Felix Mendelssohn conducted his own compositions with an orchestra hired by his parents expressly for that purpose. From John Stuart Mill's very early days his father was his chief tutor, but John also benefited enormously from associating with his father's friends such as the renowned Jeremy Bentham. Princely patronage of prodigies was not uncommon in Western Europe during the eighteenth and nineteenth centuries, but of course most talent was lost for lack of a sponsor.

Thus, long before the advent of formal tests those children whose obvious talents were prized sufficiently by someone might have them developed more or less systematically. Brilliant tutors were widely available at modest rates, and for the most part supervising the education of a child was his or her parents' responsibility. Emergence of virtually free but compulsory education changed the focus by making training in school the responsibility of the state or church. Devising of measurement and appraisal instruments for identifying talented youths made talented students more apparent, but from the start these tools reposed mainly in nonparental hands such as school testing bureaus and clinics. Those two themes, compulsory education outside the home and the emergence of structured identification procedures, permeate the history of the "gifted and/or talented child movement." It should repay us to see how they interrelate.

Hereditary Genius

In the United States massive efforts to provide instruction in the three R's and beyond for all children who could benefit from schooling date strongly from the efforts of an educator in Massachusetts, Horace Mann, during the middle of the nineteenth century. This almost parallels in time the work of Francis Galton in England that in 1869 culminated in his book entitled Hereditary Genius: An Inquiry into its Laws and Consequences. His preface sets the stage for detailed geneological studies:

> The idea of investigating the subject of hereditary genius occurred to me during the course of a purely technological inquiry into the mental peculiarities of different races; when the fact, that characteristics cling to families, was so frequently forced on my notice as to induce me to pay special attention to that branch of the subject. I began by thinking over the dispositions and achievements of my contemporaries at school, at college, and in after life, and was surprised to find how frequently ability seemed to go

> by descent. Then I made a cursory examination into the kindred of about four hundred illustrious men of all periods of history, and the results were such, in my own opinion, as completely to establish the theory that genius was hereditary, under limitations that required to be investigated. Therefore I set to work to gather a large amount of carefully selected biographical data, and in the meanwhile wrote two articles on the subject, which appeared in (1865). I also attacked the subject from many different sides and sometimes with very minute inquiries, because it was long before the methods I finally adopted were matured. I mention all this, to show that the foundation of my theories is broader than appears in the book . . . The theory of hereditary genius, though usually scouted, has been advocated by a few writers in past as well as in modern times. But I may claim to be the first to treat the subject in a statistical manner, to arrive at numerical results, and to introduce the "law of deviation from an average" into discussions on heredity.

Galton thought of talent comprehensively. His book contains chapters about judges, statesmen, military men, literary men, men of science, poets, musicians, painters, devines, senior classics of Cambridge, oarsmen, and wrestlers of the North Country. They are preceded by classification schemes and followed by analyses. Though many modern social scientists believe that Galton greatly undervalued environmental influences, his careful scholarship and thoroughness influenced the thinking of many important persons throughout the world. Hereditary Genius became a classic that is even yet essential reading for all persons seriously interested in the identification, study, and nurturing of talented youths.

Intelligence, Tests, Mental Ages, and IQ's

In 1905 there burst upon the educational and psychological community the first so-called intelligence test that provided the differentiation among young students in educational aptitude that Cattell (1890) had called for 15 years earlier. Its authors, French psychologists Alfred Binet and Theodore Simon, entitled their first article about the test "Methodes nouvelles pour le diagnostic du niveau intellectuel des anormaux." They did indeed propose radically new methods for ascertaining the intellectual level of slow-learning pupils in the lower school grades. In 1908 Binet and Simon arranged the items as an age scale so that scoring was in terms of months of mental age. In 1911 Binet published another article about his test; he died that year.

Binet's method fell upon fertile empirical soil in the United States and flourished vastly beyond anything that brilliant researcher must have anticipated. By 1910 Henry Goddard, a psychologist doing research at The Training School for mental retardates in Vineland, New Jersey, had published an article entitled "Four hundred feebleminded children classified by the Binet method." A year later there appeared his "Two thousand normal children measured by the Binet measuring scale of intelligence." This article marked the transition from use of intelligence tests with slow learners to applying them also to average and above-average persons.

It remained for a psychologist at Stanford University, Lewis M. Terman, to adapt and standardize the Binet-type scale for use with a wide range of ability. For 21 years the Stanford Revision of the Binet-Simon Intelligence Scales (Terman, 1916) was the standard for ascertaining the mental age and IQ of persons as young as two years of age or so and as old as one cared to test. Terman superseded it in 1937 with his Stanford-Binet Intelligence Test. (Also see McNemar, 1942.) Further changes were made in 1960 and 1972. To this day it is the criterion against which all other single-IQ intelligence tests are judged.[1]

Systematic Study of "Gifted" Children Begins

Terman was an admirer---virtually a disciple--of Galton. Terman's first three articles, one of them written while he was still an undergraduate, concerned the talented: "A preliminary study in the psychology and pedagogy of leadership" (1904), "A study in precocity and prematuration" (1905), and "Genius and stupidity: A study of seven 'bright' and seven 'stupid boys'" (1906, based on his thesis for the Ph.D. degree). It was natural, then, that having at hand his own intelligence test and his own concept of learning rate (the IQ) he should initiate a longitudinal study of children whose Stanford-Binet IQ's were high. This began in 1921 and continues until present day. The initial report about the 1528 children who were identified as having IQ's of at least 135, and in most instances not less than 140 and therefore ranking in the upper one in 100 or 200 of the age group, appeared in 1925, only a little more than half a century ago. Entitled "Mental and Physical Traits of a Thousand Gifted Children," it was Volume I of Terman's Genetic Studies of Genius series.[2]

As he expected, Terman found that most prejudices about persons who as children had scored high on intelligence tests were unfounded. Such individuals did not tend to be small or unhealthy, "peter out," "burn out," die young, decline in intelligence, or fail as adults. On the contrary, they tended to excel in nearly all positively valued characteristics. Oden (1968, p. 51) sums up the evidence as of 1960, when the mean age of the followed group was 50: ". . . after 40 years of careful investigation there can be no doubt that for the overwhelming majority of subjects the promise of youth has been more than fulfilled. The Terman study has shown that the great majority of gifted children do indeed live up to their abilities." That is what Terman wanted to prove. His study was descriptive and observational, not intentionally interventional; he did not attempt to improve the education of the gifted except by trying to modify the attitudes of most adults toward extremely bright youths.

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[1] For further information about the history of intelligence testing, see Goodenough (1949).

[2] Thus far there have been five volumes in that series and a subsequent monograph. The relevant references are Terman (1925), Cox (1926), Burks, Jensen, and Terman (1930), Terman and Oden (1925, 1959), and Oden (1968). Also see Sears and Barbee (in press) and Sears (in press).

If Galton was the grandfather of the gifted-child movement and Binet its mid-wife, Terman must qualify as the father. Working around the same time was an ardent, indefatigable advocate of better educational treatment for gifted students, Leta S. Hollingworth, who had been born in a sod hut on the Midwestern prairie. She was active at Teachers College of Columbia University until her death in 1939 at age 53 (see H. Hollingworth, 1943), whereas Terman was busy on the other coast and nationally until far beyond his retirement in 1942. Hollingworth may be considered the nurturant mother of the movement, through her personal efforts in the New York City area and especially via her two books (L. Hollingworth, 1926 and 1942). Yet, strangely, she and Terman seem to have had little or no contact with each other; in doing research for her interesting biography of Terman, Seagoe (1975) did not find any correspondence between Terman and Leta Hollingworth.[3]

Others Help Found the "Movement"

Galton, Binet, Terman, and Leta Hollingworth set the stage for what came to be called the "gifted-child movement." Some theoretical underpinning was provided by the British measurement theorist Charles Spearman (1927), the great educational psychologist Edward L. Thorndike (1926), and the prime developer of psychometrics, Louis L. Thurstone (1938). An alternative approach to Terman's adaptation of the Binet-Simon scales came from a clinical psychologist, David Wechsler (1939), who developed point (rather than age) sub-tests to ascertain performance IQ separately from verbal IQ.

Perhaps most influential of all has been the extensive use of the College Entrance Examination Board's Scholastic Aptitude Test for admission to colleges throughout the United States and even parts of Latin America. This group test consisting of multiple-choice items was developed by experimental psychologist Carl Campbell Brigham in 1926 (see Downey, 1961). It measures two aspects of developed intellectual functioning, mathematical reasoning ability and verbal reasoning ability. While these are by no means independent, the distinction has proved useful for predicting academic success in college.

Besides the methodologists, whose contributions were not directed specifically toward great intellectual abilities, many researchers and educators tried to study gifted children further and in some instances to help them educationally. Among the most active of these were Pressey (1949), Witty (1950), Havighurst (e.g., DeHaan & Havighurst, 1957), persons at the University of Chicago (see Bloom, Allison, & Diederich, 1950), Worcester (1956), Hobson (1963), and the Fund for the Advancement of Education (1953, 1957).

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[3] Personal communication from Dr. May V. Seagoe, April 24, 1976.

Many educationally accelerative procedures were tried, such as entering kindergarten or the first grade early, skipping grades, moving ahead faster in a particular subject area, combining grades, and entering college early. Acceleration was soon countered with "enriching" procedures such as special schools or classes or "streams" for the gifted or talented and a variety of supplemental activities inside or outside class. (For a classification of enrichment, see Stanley, 1976.) Though research consistently shows acceleration to be beneficial, most educators consider it detrimental to the social and emotional development of school children. No amount of objective evidence seems to make a dent in this prejudice, which is often entwined with a superficial democratic ethic that demands the same curricular treatment for all children except obviously slow learners.

The Post-Terman Era

When Terman died in 1956 (see Sears 1957), most systematic concern for the intellectually gifted seemed to erode. Three influences about that time hastened the demise of the movement. One was the concern generated when Russia launched the first sputnik (artificial space satellite). This led to a number of special curricula in mathematics and science for use in secondary schools. Among these were the familiar School Mathematics Study Group (SMSG) mathematics, Physical Science Study Committee (PSSC) physics, and Biological Sciences Curriculum Study (BSCS) biology programs. These were attempts to "beef-up" those subjects in order to provide better bases for later study and, to a lesser extent, better fundamental understanding of mathematics and science by the layman. Substantial elements of those curricula have entered current textbooks and teaching methods. There have been reactions to what some viewed as excessive abstractness, culminating in partial return to the "fundamentals" and an occasional competing program such as Harvard's Project Physics that is meant to be more practical and interesting than the sputnik-inspired originals.

These new programs were devised for class consumption and therefore were geared not to the very ablest students, but instead to the considerably above average ones. They did not meet the needs of the most gifted well, and they helped to turn attention away from Terman's lovingly studied upper one-half of 1 percent.

Two other influences, however, seem to have been more potent. One was the 1954 Supreme Court ruling that led to the current stress on compensatory education of culturally disadvantaged minority groups such as Blacks, Mexican-Americans, Puerto Ricans, and American Indians. Although this new emphasis was salutary and long overdue, it turned out to be another shove into the coffin for concern about the intellectually gifted, except as they are found in these groups.

Around 1957 Congress became concerned about mental retardation and began giving what were by the standards of that time large amounts of money to study and ameliorate it. In fact, the first budget of the Cooperative Research Branch of the U. S. Office of Education consisted of

two-thirds of a million dollars, all of which was earmarked for research in mental retardation.

The federal and state dearth of monies with which to help highly gifted children continues to the present day. Although there is now a federal office for the gifted--located in the U. S. Office of Education's Bureau of the Handicapped--little money is available yet for studying or aiding the upper 1 to 5 precent of school children more than will occur in their regular classes. Even active city or county or state school system specialists in the gifted are rather rare. Most concern, if it exists at all, is vested in the director of special education, and one has only to glance at such professional publications as Exceptional Children or the Journal of Special Education to see how much they are devoted to cultural disadvantagement and mental retardation and how little explicitly to high ability children. The only standard national journal exclusively about gifted and talented persons is the Gifted Child Quarterly.

Various influences, especially some of the above, have produced a wave of egalitarianism that brands as elitist most special provisions for the gifted, that eliminates or dilutes most special schools and curricula for them, and that attacks mental testing itself and urges a return to pre-Binet subjectivism. This is another example of an attempt to throw away the baby along with the dirty bath water. IQ scores have been misused a great deal. Some uninformed persons have considered them immutable, entirely based on heredity, and infallible predictors of success in school and life. The nature versus nurture controversy rages again. Perhaps Terman preached a little too much of Galton's doctrine and thus inadvertently helped plant the seeds for the neglect of the gifted.

Also, Terman did not produce disciples to continue his work well. He chose to use chiefly highly able, mature research assistants rather than unusually bright young graduate students specializing in the area of the gifted. Only four of the 27 doctoral dissertations for which he was the major professor dealt with intellectually superior persons (Seagoe, 1975, pp. 205-210). Thus he did not insure continuity of his main efforts via successors, nor was Leta Hollingworth successful in this respect, either.

The Present, and Prospects for the Future

Though intellectually talented youths remain a vastly undervalued national and personal resource, particularly by many educators, there are signs of revived interest in them that is somewhat reminiscent of the surge during the 1920's and 1930's. Far better tools for identifying and studying brilliant children are now available, and a solid body of results from many studies can guide educational practice. Though still considered an ogre by the typical teacher or school administrator (and by many brainwashed parents), educational acceleration is proving to be the method of choice for certain intellectually talented students. Foremost among these are youths who reason extremely well mathematically and are eager to move ahead in school-grade or subject-matter placement,

rather than putting up with the usual age-in-grade lockstep. By no means do all mathematically talented pupils want their school progress accelerated even a little, but when given free choice quite a few accept that option.

In 1971 the writer began the Study of Mathematically Precocious Youth (SMPY) at The Johns Hopkins University. It was supported for the first five years by a sizable grant from the Spencer Foundation of Chicago. In expanded form the project continues with support from that foundation and three others. Emphasis from the beginning has been on finding boys and girls who as seventh or eighth graders reason better mathematically than the average male high-school senior does. The ablest of these, who reason mathematically at least as well as the typical Johns Hopkins freshman, are studied much further and helped in a smorgasbord of ways to move ahead faster and better in mathematics and related areas.

Results to date have been spectacular indeed. By the end of the summer of 1976 144 precollege youths had taken a total of 312 college courses (equivalent in amount to more than 7.5 bachelor's degrees) with an overall gradepoint average of 3.57, where 4.00 would be straight A. Even though the searching for mathematical talent began mainly with seventh and eighth graders in March of 1972, already SMPY has seen 71 young men and women enter college at least one year, and as much as six years, early. A ten-year-old made the highest grade in a regular college computer-science course. A math prodigy will be graduated from an excellent college with nearly perfect grades two months after his 15th birthday. In the fall of 1973 he entered that college as a full-time student, having completed only the sixth grade of a public school, and earned a grade of "A" in third-semester college calculus.

In December of 1976 a young man is being graduated from Johns Hopkins at barely age 17 with a B.A. degree in mathematical sciences after only five semesters here, one year in senior high school, and one year in junior high school. When we first met him in October of 1971, only five years earlier, he was a sixth grader. His list of extracurricular activities is long, including a high-school letter in wrestling and a varsity spot for two years on the college golf team. He has already taken graduate seminars in political science and economics and graduate courses in physics.

In May of 1977 there will probably be two other 17-year-old graduates, each accelerated four years in grade placement, and three more graduates accelerated three years each.

I mention these startlingly radical accelerants mainly to indicate that being a year or two accelerated in grade placement by the end of college is not the stressful expedient for a brilliant youth that it is mistakenly supposed to be. Space does not permit saying much more about SMPY's other activities, such as the creation of special fast-math classes and the provision of highly able young "tutors" to work with mathematically talented students. More can be learned about SMPY's educationally accelerated smorgasbord by consulting the following books and articles: Stanley, Keating, and Fox (1974), Keating (1976), and Stanley (in press).

Fundamental reorganization of public educational systems in this country is needed in order to provide better for the wide range of individual differences in learning various school subjects. That seems unlikely to be forthcoming on a large scale within the foreseeable future, however, so it behooves educators to provide special programs at the low and the high ends of various continua of abilities. Considerably more orientation toward intellectual talents such as mathematical, verbal, nonverbal, and mechanical reasoning ability seems desirable in order to counteract the 60-year emphasis on the Binet-type global IQ. That measure of academic learning rate may be the best single index of brightness we have, but it does not predict achievement well enough within the various subject areas. For example, high score on the mathematical part of the Scholastic Aptitude Test (SAT-M) is more useful for homogeneous grouping in order to accelerate progress in mathematics than is high score on SAT-Verbal. Like an IQ, however, SAT-V scores are useful for helping decide which of the high scorers on SAT-M are likely to move well through a fast-paced special math course (see Fox, 1974, p. 114-116).

The above observation suggests that one might identify first on several abilities such as most of the eight measured by the Differential Aptitude Tests. Take the upper x% of scorers on each DAT test (verbal reasoning, numerical ability, abstract reasoning, mechanical reasoning, space relations, language usage, spelling, and clerical speed and accuracy). Then, if desired, do further testing of these high scorers to study their other abilities. Some such tests might yield IQ's. Others might simply be harder tests of the areas in which the particular students scored best--e.g., a more difficult test of mechanical reasoning for those who scored at or near the top of the DAT-MR score scale. Still others might assess interests, values, attitudes, and personality characteristics. Starting with tests of general intelligence will inevitably eliminate some students with special intellectual talents before those talents are known. Starting with tests of a variety of special talents makes it unlikely that one will overlook youths with high IQ's, but much more likely that the specially talented will also be found.

This tends to be a more democratic approach, because most of the special talents are probably less closely related to the socioeconomic level of the child's parents than is the Binet-type IQ or the Wechsler verbal IQ. For example, from SMPY'S data it is obvious that high scorers on SAT-V when age 12 or 13 tend to come more frequently from well-educated, affluent families than do high scorers of those ages on SAT-M.

Thus, after 70 years of development (dating roughly from Terman's doctoral dissertation) there is room for cautious optimism about the possibility of improving educational opportunities for the intellectually talented. Parents of such children are awakening to the magnitude of the need and the availability, in principle if not in practice, of cost-effective procedures for meeting that need. Groups of them are beginning to insist that schools make appropriate provisions for their highly able youngsters. Expensive curricular adjustments are, quite justifiably, considered essential for slow learners. It is past time that fast learners get the much less costly "special education" they deserve.

A well-known quotation from Thomas Gray's famous elegy sums up the case for seeking talent and nurturing it:

> Full many a gem of purest ray serene,
> The dark unfathom'd caves of ocean bear:
> Full many a flower is born to blush unseen,
> And waste its sweetness on the desert air.

Another poet (Browning) tells us that ". . . a man's reach should exceed his grasp, Or what's a heaven for?"

It is our responsibility and opportunity to help prevent the potential Miltons, Einsteins, and Wieners from coming to the "mute inglorious" ends Gray viewed in that country churchyard long ago. The problem has changed little, but the prospects are much better now. Surely we can greatly extend both the reach and the grasp of our brilliant youths, or what's an educational system for?

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Bernie

by

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I used to think the kids couldn't stand Bernie Lieberman because they were jealous. That, and because he was a kike. Of course you could only be jealous if you didn't go to his house like I used to do sometimes, and saw how it was all run down in places, and not even finished in others. Like there was only some tar paper on the outside. No shingles or anything. And when you walked out the second door in Bernie's room, you'd fall down about ten feet or so if you weren't looking where you were going, because there wasn't even a room there over the foundation. Never was a room built there until after old man Lieberman died. Of course Bernie had gone off by then. To the city.

The place was all full of junk, besides. Big chains laying around, and old rusty bird cages, when they didn't even have a bird. Not one. First time I went there, I guess I was about six or seven, and already all the kids hated Bernie, or were about to. I couldn't even believe all the junk in the yard, and chickens running around loose and having no coop to sleep in or anything, and when I got in the house there was Bernie reading some book in this big old kitchen. And right in the middle of the floor were these old beat up snow tires. I really remember that because it was spring outside. But Bernie, he didn't even seem to notice them. Or care. Just went on reading.

I never had heard of poor Jews. I mean my daddy told me they were all rich--got their money cheating people. Of course none of the other kids would go to the Colony where Bernie lived because that's where all the kids from the city went in the summer. Kikes, I mean. So I suppose none of the kids, or daddy even, would have believed me about the Liebermans being poor and living with all that junk, and having no heat in the winter but some old coal stove, or anything like that. But anyway, it was the truth.

Anyway, it sure wasn't Bernie being a kike, or his being poor that made the other kids jealous. They were jealous (I guess I was too--at least for a while), because Bernie was so smart. Of course we all knew that kikes were smart. But Bernie, he was more than smart, and we could see that way back when we all started school way back around 1945 or '46. Anyway, way back then. And it being such a little school, just four rooms and three teachers for everybody, well it was hard to keep being that smart a secret even though Bernie didn't go about bragging about

how smart he was, or anything like that. I think maybe he didn't even like it so much himself. But in a little school like that everybody knew, and, well, we didn't really like it.

Hell, looking back on it now, I mean after all these years, I guess it sounds sort of stupid not liking somebody because he's smart. But in lots of ways Bernie made us look sort of bad and sort of weird, although after a while we knew it was him that was weird. Like he could read even on the first day of kindergarten. Not those baby books either, but real ones. The kind we were supposed to read later in the third and fourth grade, and even later, although most of us never read them at all.

And he could do all kinds of arithmetic. And draw things. He could even speak a funny kind of language besides English, which was funny enough for the rest of us. Of course we all knew it was some kind of kike language and all, so it wasn't any very big deal because all kikes could speak like that. But the teachers thought there was something special about it.

Now during kindergarten and first grade too, I think (it's a little hard to remember because both those grades were in the same room with Mrs. Santore), we didn't mind Bernie being smart too much, because when he wasn't off doing stuff by himself, he would do our work for us, or else we would copy his stuff which was pretty good for us. And he really was a pretty good ball player, too, although we never could quite figure that out. His being good at ball, I mean. And we let him play even though he usually got picked around last. But that was because he was a kike. Anyway I guess things weren't all that bad for Bernie when all of us were in Mrs. Santore's room. At least not too bad.

Things started getting worse for Bernie, though, when all of us moved over to Mrs. Woodcock's room for second, third, and fourth grade. For a lot of reasons, I guess, some of them I remember really clearly. Some others I guess just sort of happened.

The big thing I figure was the way Mrs. Woodcock set up her room. In rows it was. The second graders were in the first row way over by the window. But those green shades she had were always down so you couldn't see out anyway. That's where I had to sit. And Bernie was supposed to sit there too since we were the same age. The next row, in the middle, that was for the third graders, and all the way over by the door, that's where the fourth graders sat, and they were the ones who got to go out to lunch and recess and the bathroom first. Sort of special things you got for being in the fourth grade.

Anyway, instead of sitting over there by the closed windows with us, Mrs. Woodcock, well she put Bernie over there with the fourth graders by the door.

I remember that first day of school that year. I knew that a lot of the other kids didn't like Bernie all that much, and since I thought he was

c.k. (all things considered, I mean), I thought I could sit in front or behind him in the second grade row, just to show him I didn't mind his being so smart or a kike. But when I got to school he was in that fourth grade row sitting by himself in the back of the room near the cloak room. He told me that Mrs. Woodcock had talked to his mom, and told her that's where Bernie should be--in the fourth grade. So he couldn't sit with me.

Now, of course, the big fourth grade kids sure didn't want to let Bernie sit with them, and some of them were pushing him over to our side of the room, when Mrs. Woodcock came into the room and started yelling at everybody, and telling us that we were a bunch of ruffians, and why couldn't we all be nice like Bernie? And told us that was probably because we weren't as smart as he was and that we were all jealous. Of course Bernie sort of turned bright red when she said this stuff, and even started to cry a little, which made all the kids laugh at him and call him sissy and even sissy kike, which I thought wasn't really fair. Anyway, I don't think it helped Bernie all that much when Mrs. Woodcock moved him from the back of the room where he wanted to be, all the way up to the front. Made him sit right near her so the other kids wouldn't bother him. At least that's what she thought.

Of course some of the big kids, Charlie Harrison and Seth Quirk, they sort of pushed Bernie around a lot at first, I mean when Mrs. Woodcock wasn't looking. Even said they'd beat him up after school, which was only talk because they were too scared to go up to the colony and catch some kike disease, or even worse, some nigger disease since some of them moved in up there cause nobody'd let them move into town. Anyway, most of the kids just called Bernie sissy, or teachers pet, and let it go at that. And maybe a shove now and then.

Sitting up front of the fourth graders I guess was the worst thing that year for Bernie. But a couple of other things didn't help too much either. That was the year Bernie started wearing glasses, which didn't surprise anybody since smart sissies always wear them. Of course all the kids started in with "four eyes," and "pinkie four eyes" since Bernie's glasses were kind of clear pink round things. I once asked him why he got that kind of glasses, since glasses alone were bad enough, and he told me he didn't like them either, but they were the cheapest kind and that was all his mom would buy him. But I've got to admit, even I thought they were a little weird looking, and wondered about them from time to time.

Bernie was really pretty good about taking the stuff the other kids did to him--the pushing around and the name calling and stuff. I mean he let the fourth graders copy his home work even though he knew that Mrs. Woodcock knew that he was doing it and didn't like it. And he tried to be like other kids as much as he could--interested in baseball and stuff. He wasn't pretending either. He was good at it, like I told you before, so we let him play, and he knew more things, like batting averages and stuff like that than anybody I ever knew, and stuff about where Di Maggio was from and what kind of glove Johnny Mize used. And even though

some people didn't believe me, or said they didn't, Bernie was pretty brave too, and did things none of us would have done.

Like the day the fourth graders had a spelling test with the word "shipped" on it, and Bernie wrote "shit." It was the only spelling word he ever missed as far as I know, so you had to believe he knew what he was doing. And Mrs. Woodcock asked him about it--I mean she was kind of upset--about how he could miss such an easy word like that, and Bernie told her that he didn't miss it. Said he wrote what she said. Of course she got even more upset when he said that and she showed him "shipped" in the spelling book. Well, he looked at me and then at her and told her he didn't ever study from the book--didn't have to--he just spelled what she said, and if she said shit, well that really wasn't his fault.

Some of the kids heard what Bernie was saying, and laughed, and thought maybe Bernie wasn't so bad after all. And Mrs. Woodcock looked angry at the whole class and at Bernie. But she didn't punish him or us, or anybody. Just marked the word wrong which I think got Bernie's mom angry. But he didn't seem to mind.

A few days after that Charlie and Seth and some of the other big kids told Bernie that writing "shit" on a spelling test was kind of a funny thing to do. Especially for a four-eyed sissy and all, but they didn't figure he could ever do anything like that again, and he'd still have to prove himself if he ever wanted them to really like him.

Well, I guess Bernie was more lonely than he wanted to let on, so he told them that if they promised not to tell, that he'd show them this poem that he had written. Well they laughed a lot about that, you know, poems being sissy stuff and all that, 'till Bernie showed them the poem. Then they really laughed, but not at him.

Well the big kids laughed like hell, and said they thought that was as funny a thing as they ever heard. And they even promised not to tell Mrs. Woodcock, although they sure said they would tell other kids, you know, the right kids, about it. And you could see that Bernie was really happy and all.

But Linda Hansen, she didn't make any such promise. Course she wasn't even supposed to have heard the poem. But she did, and she told Mrs. Woodcock who told Bernie he'd have to see her after school was over.

Now of course all the guys who heard the poem, we stayed after school too, 'though we waited outside the door. But we could still hear and all. And we heard Mrs. Woodcock say "Bernard, did you actually write that disgraceful poem one of the children told me about?"

"I wrote a poem," Bernie said, and she kept at him until she got so flustered that she said "Did you actually say roses are red/violets are blue/if you will kiss my ass/then I will fuck you."

Well, we all laughed like crazy, but not so loud so Mrs. Woodcock could hear, 'though it wasn't too easy to keep quiet. And then Bernie said, no he didn't write that. He sounded really upset, too, and we thought maybe it was because Mrs. Woodcock told him that his mother would cry and all if she ever found out. But then he said, "the meter of that is really awkward and heavy. What I wrote was. . ." and then he read his poem the way he told it to us, and we busted out laughing so loud that Mrs. Woodcock heard us and she came running out of the room screaming, and told us that all of us would have to stay after school every day for a week, and that she was going to call our parents to tell them what we'd done. Things like that. Then Charlie and Seth really got angry, and started talking about how it was Bernie's fault that they'd have to stay after school and how they were going to get his Jew bastard ass, although, as far as I know, they never did.

Of course from that point on Bernie was all alone as far as the other kids were concerned, except me. I mean I knew he didn't do anything to get us in trouble. But you could see that Bernie was sort of confused and angry. I mean he wrote that poem so the big kids in the fourth grade would like him, and now they hated him even more. Even Mrs. Woodcock was upset with him, although I think she was really more disappointed than angry.

Looking back on it I guess Bernie's poem sort of turned him off pretty much to going to school. He still came, I don't mean he stayed out or played sick like sissy kids are supposed to do, or anything like that. But most of the time he was there he really didn't do any work any more, or even try to talk to any body. Of course Bernie never was that much of a talker. And he never really had to study or do any school work or even try even though he was in the fourth grade and all. I mean he just sort of sat there and took the tests and things, because he never really had to study. It was like he just knew the stuff. But now, when he came to school he sort of just sat in that front seat and didn't do anything or even pretend to. He just sort of sat there and looked around at things that really weren't worth looking at. Or maybe draw. He did that sometimes. He could really draw, too, and sometimes he would do that, although Mrs. Woodcock didn't really like him doing that in class. Cartoon things mostly, like Donald Duck and Mickey Mouse. But other things too. Like he liked to draw baseball pitchers. He really liked pitchers which was o.k. He even told me once that that's what he wanted to be when he got big. Be a baseball pitcher for the Yankees. Of course I told him that there weren't any real Jewish pitchers in the big leagues. But he told me that's what he wanted to be anyway.

Other times, though, he would draw pictures of really strange things like weird people and monsters and little things killing big things. That's the stuff he did. Just look around the room or draw his things. He didn't even pretend to listen to Mrs. Woodcock, or anybody. And he didn't have anything to do with anybody, except me now and then. I remember once, about this time, that Charlie and Seth and this new big kid Tommy Patrick were all going to pick on Bernie for nothing really. You

know, just for fun. But this time Bernie wouldn't take it like he used to. I mean they started calling him four-eyes and things, and Bernie, well he picked up a chair and started at Seth screaming at him "leave me alone you big stupid mother fucker." He said that right in the room. Seth and them, they didn't know what to do. I think they were really surprised and scared. I know I was. Anyway, they ran out of the room and called Bernie crazy, and tried to make out like they weren't scared. But you could tell they were.

I guess Mrs. Woodcock got scared too, because she called Mrs. Lieberman on the school phone (we all could hear, you know. I mean the phone was right there), and asked her could she come and take Bernie home and then come back and talk to her.

Well Bernie, he just sat at his desk reading a book like nothing had happened even though by this time the whole school knew about it, and was really in an uproar. But he just sat there with this book, about baseball I think it was, and read it with sort of a smile on his face, until his mom came and took him home.

Bernie didn't come back to school again for the rest of the year. Most of the kids thought that was terrific, I guess. At least they said so. Said things like "we really got rid of that sissy kike," although I think maybe they knew that Bernie didn't stay home because he was scared of them or anything like that. Seth knew that, anyway. And Charlie, too. I guess maybe Mrs. Woodcock figured that Bernie didn't really fit in too well, and you could sort of see that she really didn't have too much to teach him. I mean she just sort of gave him books. That's all. So what she did now was she gave me some books to take to Bernie's house 'cause she knew I would go there, and some instructions for things she wanted him to do, I guess until she could figure out what else to do with Bernie. Anyway, once a week I would bring her the stuff Bernie did, a lot of it I couldn't even understand.

I didn't mind the trips out to Bernie's house. Not really, even though the people in town talked about the colony like it was some weird place way off in nowhere, when really it was only maybe a mile or so from the school. It was pretty far past where the street lights let off, though, and the roads out there weren't paved, or anything.

In the spring, especially, I sort of liked the times I'd go out there. Bernie and I would throw a ball around out in back of his house, and once I helped him hang a tire from a tree. Or tried to, so he could practice his pitching since that's what he wanted to be. Or maybe an artist. But that tire was too heavy for us even though Bernie worked out some kind of pulley system to get it up off the ground. The next time I went out there, though, it was hanging out there in front of this old shack that I guess was once some kind of storage shed. Or maybe a chicken coop. Anyway what it was there for now was to stop the ball from going all over the place. I asked Bernie if his father had helped him with the tire, and he said no 'cause his father thought things like

baseball were a waste of time. So he did it himself. Said it wasn't too hard once he figured out how.

A lot of times I was there we would walk in the woods, or go down to this lake that was in the colony, the one the kids in town called kike's lake. They were angry, I guess, because the summer people from the city wouldn't let the town kids use the lake.

Anyway, in the spring nobody'd be there but Bernie and me, and it was very peaceful. I asked Bernie if he minded spending so much time alone, and he said no. Said it gave him a chance to hear himself think. I didn't understand that then; and guess I still don't. Not really. But it kind of gave me the creeps thinking of Bernie sitting there by the lake alone, maybe drawing or reading, and listening to himself think.

Once I asked him what it was that he thought about, and he sort of looked off into the water and said "just things" in a way that made you feel he was kind of sad about it.

After school let out for the year I didn't see Bernie again until the next fall. I mean I would have felt sort of funny going to the colony in the summer with the people from the city there and all. And he didn't call or anything. So mostly I sort of forgot about Bernie for the summer.

But in September he was back in school, though he told me he didn't really want to be there--said he would rather stay at home like he did last year and have me bring him his books and things. But the school didn't want him doing that again. Thought he should be with other people. He said someone from the big school over in Bedford asked could his folks send him to some private school somewhere--I guess they never saw those snow tires in the kitchen, or all the junk Mr. Lieberman kept around--didn't know how poor Bernie's folks were. Anyway, they told him that he'd have to go back to school even if he didn't want to go, which he didn't.

In September the big change for me was just moving over a row into the third grade place, and I figured Bernie'd still be over in his front seat over there with the fourth graders and that might be o.k. for him since we'd be closer than we could be last year when there was all the space between us. But it didn't work out that way, and I guess this year was the real beginning of Bernie getting kind of strange. Not just to the people who didn't like him anyway, but to me too, even though I still like him and all. It's just that it got a little harder.

What happened was instead of keeping Bernie in Mrs. Woodcock's room (I mean it didn't really seem to matter what grade they said he was in 'cause he was way ahead of all the kids anyway), they put him in the room with Mr. McGrath who had all the fifth and sixth grade kids. Of course Seth and Charlie and those kids were in the fifth grade now and still were on Bernie a lot. They started to call him mama's boy sissy, stuff like

that, 'cause of all the time he spent at home last year. But now Bernie sort of just looked right through them, or didn't hear them or something like that. I mean it wasn't them that bothered him. Or the sixth graders either, who didn't really like the idea of a little third grader being in with them. But after a while they sort of just left him alone. I guess it was all they could do since Bernie was acting like they weren't even there anyway. So why bother?

The trouble was Mr. McGrath who--well he wasn't exactly mean or anything. He just wanted everybody to know that he was the teacher, you know, and he wanted you to think he was smart because he was the only teacher in the school who went to a regular college, whatever that meant. Anyway, he sure didn't like it when along comes this little kid who spent most of his time alone, not listening to him or anything, but reading his own books and drawing those pictures of baseball players and weird things.

I guess what got Mr. McGrath angry was that when he asked Bernie a question about something that he knew Bernie wasn't listening to, well Bernie would just ask him to repeat it. Did it real politely too (at least that's what the kids in the class told me), and then Bernie'd not only give him the answer, but he'd keep on going, telling Mr. McGrath more than he'd even asked for. And he'd always get a hundred on all the surprise tests and things Mr. McGrath liked to give.

Of course I can sort of understand why this kind of stuff might get a teacher maybe a little angry at first. Maybe, though I thought it was really a little funny. Anyway, it seems that this kind of stuff got Mr. McGrath angry and he started to really pile the work on Bernie and started getting nasty to him in class. Picking on him and things so it sort of became a war between the two of them. Got so bad that even Seth and the big kids sort of took Bernie's side, which told me that things must have been getting pretty bad for them to do that. And I guess it was, since for a while you'd never see Bernie at recess, 'cause Mr. McGrath started making him stay inside. For talking back he said.

Well, one day Mr. McGrath was talking about some math, a subject Bernie really liked, and knew, and he asked Bernie to do some tough problems on the board. But not really that. I mean when he called on Bernie he said "See if you Jews are smart enough to do that."

Well, Bernie didn't seem to get angry or anything. What he did, though, he went up to the board and did the problem, not even looking at McGrath. Then he wrote one of his own on the board. Not even on the same stuff. I mean the sixth graders said they hadn't even seen anything like it before. And then Bernie threw the chalk at McGrath and said "see if you can do that you god damn idiot."

Well, McGrath got all red. And even started shaking. And he told Bernie that he'd better sit down fast. But Bernie didn't. Not right away. He sort of stood there looking at the teacher and smiling, and then all the kids started laughing at McGrath and yelling "he can't do it." Stuff like that.

Anyway, McGrath got all the kids quiet by shouting at them, and telling everybody they'd have to stay after school. But not before the kids sort of made Bernie the hero of the school. Not because they liked him, really, but on account of he'd put down the guy who was always bragging about being the only real teacher in the school. But none of it made Bernie happy. You could just see that. And after that scene with Mr. McGrath, well you couldn't even talk to Bernie without him saying somethin about how stupid the world was--and everybody in it.

I mean everybody. I mean you'd just say a name to Bernie, or even a thing, and he'd start in with "inferior," "stupid," "wicked," things like that. And he'd go on the on with that stuff. All except DiMaggio, and one or two guys like that. Even then he'd have to say something nasty. You know, like "DiMaggio's stupid too, but at least he can play ball." And saying things like that. I mean things that were just a little bit nice about somebody, even that seemed to bother Bernie 'cause I guess he felt it was maybe too nice a way to describe any part of the world he thought he saw. And maybe that was really the way he saw it.

I guess Bernie shouldn't have stayed in that room with Mr. McGrath even for the rest of the year, because things between them never got any better. As it turned out though, he had to stay there four years, I mean until the rest of us got through the sixth grade, 'cause there really wasn't any place for him to go. I heard there was some talk about sending him on to high school early. But since nobody'd ever done such a thing before, or even thought about it, the school people decided that it wasn't a good idea. Of course Bernie said he didn't care where they put him. I mean he said he didn't care. Told me that he figured the teachers in the high school over there two towns away were probably as stupid as McGrath, so why go there anyway.

For a while I tried getting Bernie to do some other stuff besides reading and drawing, and walking around by himself. But like I said, he sure was getting hard to be with. And you can only listen to someone calling you stupid and dumb so long. You know, before you start backing off even if you like the person. Now I figured that Bernie was maybe sort of testing me. See if I would put up with all his crap. And I tried. Really, I did. Like I once almost talked him into playing baseball for the little league team over in Bedford. Of course he told me that it was a stupid team with lousy players and all, but I think maybe he really wanted to do it, but was ashamed to ask anyone to give him a ride to go to the games and things. See, like I told you, Mr. Lieberman, he didn't believe in baseball and stuff. Thought it was a waste of time. And besides, he never really had much time for that kind of stuff anyway, 'cause he was always working driving around in that old truck all filled up with tools and junk. And I guess Bernie figured that nobody'd give him a ride 'cause he was a kike and nobody but me liked him.

So he just went on saying it was stupid, and everything was stupid. But for something that was stupid he sure spent a lot of time throwing a

ball at that old tire he hung up. Anyway, he never did play. Not on the team, I mean. Or do anything with anybody else, unless you count his dog, Garuda, I think he called him, 'cause he sure spent an awful lot of time with that dog.

Going into the seventh grade was supposed to be a very big deal. And maybe it was, because they just opened this new school which was named after some old judge or politician or something who used to own a summer house right around where the school was built. Of course something else was special, too, because now we had to take a bus to get to school. I used to get on the bus right near my house, you know, in town, and then we'd drive out toward the colony where Bernie lived. But the bus really didn't go anywhere near Bernie's house, so he had to walk maybe half a mile or so to the state road and wait there. Alone.

I sort of hoped that going to the new school would be good for Bernie, and stop him from being so different which all those years with McGrath, and being alone didn't really help. I always thought that Bernie was, you know, alone too much for a kid. Even for a smart kid with a dog and all. Well, I thought that maybe 'cause there'd be more kids and all at the high school, that Bernie might be able to make more friends. You know, besides me. But the first day of school didn't seem to be all that terrific for him. I mean even on the bus it started going pretty bad, because even the kids from the other town who rode on our bus sort of knew that the colony was a place where the kikes lived, and they got on Bernie pretty bad right from the start, calling him "Jew Boy," things like that even before they knew how crazy smart and all he was.

They didn't push him around or anything like that. Maybe it was because that when Bernie was around ten or so he started lifting weights and stuff. Kept it up right through high school 'cause he said it was a good way to get rid of "his hostilities" without really hurting anybody. Anyway, he got pretty strong, so if a kid pushed Bernie, or something like that, well one push back sort of told the kid he'd better stay away. Later on Bernie told me he was reading books on what he called martial arts which told you how to kill somebody just by punching him in the right place and all, although I don't think Bernie ever punched anybody ever. But he told me he wanted to know how, just in case.

Anyway, nobody really did anything more to Bernie than, you know, a little push or bump. But they did call him some names and all, even on that first bus ride.

I guess, though, that once we got to the new school things were worse for Bernie than even on the bus. Not that it wasn't a nice school or anything, 'cause it was. I mean even Bernie liked the way it looked. It had a lot of different buildings spread all around and a big gym, and like miles of fields around it. Bernie really liked those fields.

But once we got to school we didn't have any real chance to look around because they had all of us seventh and eighth graders meet in this

auditorium where they were supposed to tell us all about the school, and who our teachers were; stuff like that. And then this woman got up and said she was Miss Stewart and that she was a guidance counselor (I mean we didn't have anybody like that in our old school), and that we would be in classes "suited to our academic needs," which meant dumb kids would be with other dumb kids, and smart kids with smart kids. Things like that. Anyway, she started reading out names--I was supposed to be with what she called "the appropriate level group," which meant not super dumb, and figured that Bernie would go with the smart group. Well, she read out the names of the "academically advanced" group, and you could see those kids smiling and patting each other on the back and all. Mostly rich kids. I mean you could just see that by the way they dressed and talked. Things like that. But when she got to the end of that list Bernie's name still wasn't called, and he seemed sort of happy--figured they'd just forgotten about him and that maybe he could go home.

But this Miss Stewart, well she just kept on talking saying that the seventh graders were very fortunate to have as one of its members a boy who was so special that while he'd be in a seventh grade home room and gym and things like that, he'd take his academic subjects with the ninth and tenth graders.

Well, I knew who that was right away, 'though I have to admit I didn't think it was so great an idea making such a big thing about it. But most of the kids--the ones who weren't in our old school--they started looking around and talking, and wondering who it was, and the rich kids wondering how it couldn't be one of them, and then the guidance counselor called Bernie's name and told him to stand up since most of the kids wouldn't be seeing him too much. Well, Bernie didn't want to do that. I mean, who would. But she kept on calling his name, not really giving him much of a choice about the whole thing, and when he stood up dressed pretty clean and all but, you know, really poor looking anyway, all the kids who didn't know Bernie started in with things like "who's that creepy looking kid," and "I hear he's one of them kikes from that colony," stuff like that, which didn't seem like it was too great a beginning for Bernie, although I sort of hoped he was getting kind of used to pretty bad beginnings.

I guess it was right from the beginning that Bernie got caught sort of in the middle of stuff I knew he didn't want any part of. I mean all he rally wanted to do--all he seemed to like to do, was be alone. But you see what started happening was while the kids were telling Bernie what kind of weird creep he was, or else ignoring him in ways that sort of forced you to know they were ignoring you, the teachers, and especially this guidance counselor woman, were always telling him how terrific he was, and how he was a credit to the school and to his race, and how he sort of had a responsibility to people because he was so smart. I mean I didn't really understand this stuff about responsibility. Sort of seemed to me that they were blaming Bernie for being so smart and all. How could that be his fault? But Bernie seemed to understand what they meant, though he didn't like it much.

But like it or not what Bernie did was he started working more in school than he ever did before. Not that it became his whole life or anything. I mean he still liked to throw a baseball, and draw, but even though he said he didn't really like the school work they gave him too much, he always did it. And the more he did it, the more the teachers and the guidance counselors told him about his responsibility. And then he started talking about it too, 'though like I said, it didn't seem to make him any too happy.

Now Bernie and me, we never had any classes together, except gym now and then. But we were always in the same homeroom which was the place where "democracy" was practiced which meant that the smart and dumb kids of the same age could be together. See, they never put Bernie ahead in his home room because they didn't want him to lose contact with his "peer group" or so Bernie said, which really seemed kind of stupid to me. But he kept on taking classes that were way ahead of the rest of us. Now when all of us were in the eighth grade Bernie was in eleventh grade social studies where one of the things he was supposed to do was what they called a career book which was a book you made describing the kind of job you wanted to do when you were finished with school.

Now, like I said before, ever since I can remember Bernie wanted to do one or two things, maybe both. So what he did was do two of those career books. One on baseball pitching which had a big section on what Bernie called "the physics of pitching" where he told why curve balls curved, and fast balls jumped, and knuckle balls knuckled; things like that. And another book on cartooning which talked about old time cartoons, and animation, and comic strips, and it was filled with cartoon drawings Bernie had done which really looked like the real ones. I heard that once Bernie really drew a Flash Gordon comic. Really, 'cause the man who drew him lived near the high school. I mean Bernie was that good at drawing. And Bernie was really proud of those books. First time I remember him being proud of anything he'd done.

Anyway, instead of getting his career books back in class like the other eleventh graders, what happened is that Bernie had to go to some meeting with his teachers and his parents and this new guidance counselor they hired named Mr. Farquar or something like that. Bernie told me all about it.

What happened was they gave Bernie back his career books with hundreds on them (which was mostly his ordinary grade), and they told him that while they all knew he was interested in baseball and drawing cartoons, he should start thinking about what he <u>really</u> wanted to do. For a job. And they talked about things like his being a scientist or a doctor, or something like that.

Now the Liebermans, maybe because they were so poor and all, and couldn't speak English all that great, were sort of afraid of the people at school. Maybe ashamed more. But afraid too. So Mr. Lieberman kept

on saying "yes," and "yes" to whatever Mr. Farquar was saying which was that they should send Bernie to this place to take a lot of tests to find out what Bernie was really interested in, and then get Bernie to start studying for all kinds of tests so he could get money to go to college and all that when the time came. Well, that kind of talk made the Liebermans I guess about the happiest people in the whole damn world, like dreams coming true and all that. And I guess with all those people pushing at him Bernie sort of had to go along with them. And he did, even though he thought he really wanted to be a pitcher and draw cartoons.

Well, Bernie took all the tests that Farquar wanted. I mean he was away at this testing place for two whole days and all, and then Farquar, he called the Liebermans back to the school to tell them about Bernie's scores. About how they were the highest the place had ever seen in almost everything and in everything that was really important, and that Bernie could be whatever he wanted and all, but that he should be something that involved science and things like that which could mean a doctor or a chemist, or something. And when Mr. Lieberman heard that, well Bernie said he went sort of nuts and started crying and all. Bernie said that's what you call the Jewish Father Syndrome--whatever that is--and said its kind of a sickness. And maybe it was. I mean maybe it was catching too, because it seemed that because his father had this syndrome or whatever, that by the time we all reached tenth grade homerooms Bernie started talking about wanting to be a doctor. Talking about it a lot, although I have to admit that I really didn't believe him. I mean it was like all of a sudden he wanted to be a doctor <u>too</u> much.

Anyway, about this time other things were sort of changing for Bernie, and I guess things looked a little better for him if you didn't really know him and all. Like how he got along with the other kids <u>seemed</u> better. It wasn't good, or anything like that. But anyway, most of the name calling and things were pretty much gone. Stuff like that. You see most of the kids were getting interested in stuff like girls and going to dances, or over to the Rendez-Vous and the DewDropInn, places like that where you could drink if you changed your birth certificate and stuff. And driving cars. So Bernie's weirdness didn't seem to be all that important anymore 'cause kids had more important things to think about.

Not that Bernie did any of this stuff. I mean he never learned to dance or anything, and there weren't even any Jewish girls for him to screw around with, except Laura who wouldn't have anything to do with him anyway because he was so poor. 'Course no girl would have driven around in that old truck Bernie got to use now and then. I mean it was always full of junk, and smelled 'cause the exhaust used to come right through the wooden sides.

So mostly the kids left Bernie alone, and didn't even care about how he always got nineties and hundreds on his report card, except maybe when one year he got a hundred on the state exam in French. See, that was the year they had to lower the passing grade all the way down to fifty-five 'cause so many kids would've flunked otherwise. I mean most of the

"advanced placement" kids, the ones who wanted to go to college would've flunked too if they didn't lower the passing grade, and I guess they thought Bernie sort of made them look stupid by his getting a hundred. Even got his picture in the paper for that.

Bernie didn't care. Not about that picture thing. Or even the hundred. Actually during his last couple of years in high school his picture was in the peper a lot, 'cause he started getting real high scores on some big tests, and even won some fancy scholarship to someplace 'cause his grades were so high.

But Bernie gave those pictures and things to his father. Or else he threw them away. I was with him the time he took this big medal kind of prize he won for science and threw it into the lake. Skipped it out maybe twenty yards, then sort of just watched it sink. Anyway, he kept one picture of himself though. One of him in his baseball uniform with the story telling about a game Bernie pitched and the team won when they weren't supposed to, Bernie being like the team's third pitcher. I guess that picture was the happiest thing that ever happened to Bernie in high school. Maybe ever.

I know it was more important to him than that speech he was supposed to give at our graduation on account of his having the highest school average and all. Actually there was nobody even close. Not even this ugly girl Felicia who never did anything but study.

Anyway at graduation and all Felicia, she got to give a speech 'cause she was second to Bernie, and she gave this dumb speech about music and how important it was that everybody love the arts and all that stuff. And everybody was just about falling asleep except maybe Felicia's parents who were trying like hell to stay awake and look interested, and Bernie who was really sort of scared on account of his having to give this speech to a bunch of people who had treated him pretty bad all these years except me and Farquar who I think really liked Bernie, but sure didn't spend much time trying to understand him or anything.

Anyway when ugly Felicia was finished with that boring speech, old Farquar got up there and really started laying it on thick about Bernie. Started talking about this extraordinary young man, who though of humble means, had typified all that was fine about America's youth. Crap like that. Of course he didn't once mention all the shit Bernie had to live with, or about how this "fine American youth" was maybe the most alone person around, or how he drew weird pictures, or anything like that.

Then he started talking about all the honors Bernie'd brought to the school (which I think is what made most of them happy about old Bernie), how this Regents scholarship, and this Merit scholarship and all kinds of science awards, like the one he threw in the lake, and how he was going off to some fancy Ivy League school in New Jersey and become a doctor, and would bring honor and such back to the community which loved him. You know the kind of statement that really made you want to puke if you

thought about it. And he went on about how in a time when the Russians were sending Sputnicks up into the sky and all, that American desperately needed such fine and brilliant young men.

Old Bernie, I think he just wanted to run away to kike's lake and be by himself, or with his dog.

But old Farquar he just went on talking. Said "We on the faculty have created a special award. The faculty's award for most likely to succeed award, which we now present to the 1958 class valedictorian, Bernard Lieberman."

Well, I just about had to kick Bernie to get him to go up there and take Farquar's dumb trophy which looked sort of like a bowling pin, and give his speech.

Now Bernie's speech wasn't as bad as most I've heard, but I think it wasn't exactly what the faculty advisor helped him write, or what the audience wanted to hear.

It started talking about new advances in science and stuff like that. And challenges to America. Well, everybody lapped that stuff up. But Bernie kept on talking away, and asking if everybody was sure the world was worth saving all that much since it was a world filled with lots of cruelty and idiocy, and a lot of stupid people wanting other people to kiss their asses for money and stuff. I mean he used nice words and all. Big words too. And he was polite and all that. But you sort of had the feeling that a lot of people there knew what Bernie was telling them, and they didn't really want to hear it.

Old man Lieberman though, he didn't mind. I guess he didn't even understand half of what Bernie was saying. But he didn't care. I mean you could see him poking other people, and pointing to Bernie, and all. And he sort of cried he was so happy, and because he didn't know that Bernie wasn't.

After the graduation I saw Bernie for a few minutes. I was going to this big graduation party and all, and knew that Bernie wasn't. I mean he never went to anything like that, and I think he never even got an invitation. Anyway, I asked him to sign my year book, you know. Well, he found his picture, the one with him in a funny suit. And under it was this list of all the awards and things he'd won, and under that the words "head shrinker" which were there because everybody'd figured that Bernie was going to be a doctor and if he did he should be a shrink 'cause everybody figured he needed one. Anyway, he wrote "There's real beauty in a well thrown fast ball." and just signed it B. And then I asked to sign Bernie's book, which he let me do, and I noticed that I was the only person he let do that. Or maybe I was the only person who would.

Well, most of us got jobs after high school, except the rich kids who were going off to college, and all. Bernie, he got a job too, for the

summer I mean, washing dishes at some little restaurant near Brewster. Said he was trying to get together some money to buy clothes for college, which he said was important to him, though that kind of stuff never seemed to matter to him all that much before.

Anyway, it sure seemed important to him now. I mean toward the end of August Bernie was spending days down in White Plains picking out the stuff he was going to take to college, talking like this stuff was gonna make a real difference to his life and all. I've got to admit, though, that I didn't really like the stuff he bought.

I remember the day he left for New Jersey all dressed up in this black coat with sort of silver wires running through it, and these baggy gray pants and white buck shoes. Stuff like that. And he even bought this gray hat with a feather in it, which I thought was pretty funny, but I didn't want to tell Bernie that because this stuff seemed really important to him.

But I guess the thing that bothered me the most was that he bought this new pair of glasses to replace those pink round things he'd been wearing all these years. You know, the kind he was wearing even back in Mrs. Woodcock's room. I mean it got to the point where I didn't even see them any more, like they were part of Bernie's face. But these new ones, they were big square muddy gray looking things which sort of hid Bernie's face. And the feeling he gave you now, all dressed up like that with those glasses and all, was sort of like a person really trying to hide who he was, or maybe even become someone else, which maybe Bernie thought he could do now with his going off to college, and all.

See, I really wanted college to be sort of a nice place for Bernie, and thought that maybe it would be, his being so smart and all. But the way it turned out, I guess it wasn't really much better for Bernie than say Mrs. Woodcock's class had been. The school part of it seemed o.k., although I guess for the first time in his life Bernie got to see that there were some people in the world nearly as smart as he was. At least that's what he said in his letter, though to tell you the truth I had a little trouble believing that. But the big thing was that even though Bernie was getting all kinds of good grades, and was in pre-med and all, it still was kind of hard for him to find a place where people would accept him as he was, though maybe "as he was" wasn't all that easy a think to figure out, or to live with.

It seems Bernie sort of tried to join some fraternity for guys trying to be doctors, or something like that, and I guess they figured that Bernie didn't really fit the part no matter what Farquar said. I mean Farquar never was a doctor or anything. Anyway, it seems these guys got down on Bernie pretty bad (I sort of had the feeling some of it may have been about those clothes he got in White Plains), and he didn't take it too great if you want to know the truth. Started calling them "bourgeois idiots" or something like that, which I guess didn't make them like him all that much more. I know they bothered him though, because he sort of hinted that he threw away that gray hat which he said he liked so much.

When I wrote to Bernie sometime around Christmas, I sort of asked him why he was even trying to join things like fraternities there at college, 'cause he never joined anything here, except the baseball team, and even then he was mostly by himself. He wrote back telling me I didn't know anything about it, which was true, and then I figured that maybe he thought maybe he could like himself a little more if he belonged to something. Anyway, I never mentioned it again.

So anyway, the next thing Bernie tried was some kind of Jewish group, which didn't seem like such a good idea to me since even if you were in a group like that, well, it's still sort of an out group that you'd be better off not being in. But I think Bernie really tried with that one. I mean he went to dances and things like that, which must've really been hard for him. Maybe too hard, 'cause in the spring Bernie wrote something about all those people were interested in are dances, matzo balls, and Jewish suffering, whatever that is, and he figured that he didn't go off to college to screw around like that, and that he was now gonna spend all his time studying, and maybe lifting weights. Which is what he did. Study and lift weights, I mean, although I have to admit I got a little worried, 'cause Bernie wasn't really talking about all that studying being for him or anything like that. See, he kept talking on and on about his father, and how important his being a doctor would be, you know, to his father, and even to people like Farquar. It was like it was in high school. Maybe worse. You know, like he was really trying to convince himself of something because he kept on talking about the same thing. You know, over and over again. I mean I don't even remember him liking Farquar all that much to be studying all that much for him or anything like that.

Anyway, that's all he wrote about after he quit that Jewish group. About how he was studying, and how he had to be a doctor, and how stupid doing anything else was. And maybe he believed it then. I mean he stayed in school all that summer, and right up through the next year, and I sort of imagined him spending all of his time reading through those big muddy glasses, yet sort of wishing he was up at kike's lake with Garuda. Or maybe throwing a baseball.

The news just about killed old man Lieberman. And maybe it did. I mean he really didn't live all that much longer. And I've got to admit, it sort of surprised me a little, 'though maybe Bernie'd been hinting at it for a while and nobody noticed. Or wanted to. See, sort of early in the spring of his second year at college Bernie was talking a lot about needing to see a little more of things in the world. I mean before he became a doctor. He still was talking about being a doctor, too. I mean he told me about how they had put him in this advanced class where they were letting him, only as a sophomore, cut up dead people and all, which he said was kind of interesting after you got over puking. But he also said that there were other things in the world.

Anyway, the letters sort of stopped for a while, and then one day I got this little blue kind of letter with Bernie's writing on it, telling me about how he had been following a bad "karma," something like that, and

how he finally realized that being a doctor and joining kike groups--even going to school--had been stuff that he was doing for other people, and he was finally going to do something for himself. I mean he really sounded angry, calling himself an idiot by being sucked in by people like Farquar, even his father, and that he was done with living out other peoples' fantasies. Stuff like that.

So what he did is he sold most of the stuff he owned, mostly books, and those clothes he bought, and this typewriter his father gave him, and got a job on some boat. And he was now in Paris and all, where he was going to stay until he was damn well ready to leave.

Now I heard of talk like "I'm gonna go to Paris," and crap like that from some of the kids in high school. From kids who mostly just talked, and who couldn't even speak English all that well. But Bernie, like I told you, he was the guy who got the hundreds on French tests, and maybe he was the only guy ever who really learned that kind of stuff in school. But he was also the last guy you ever figured would do a thing like that. I mean unless you really thought about it.

Anyway, he said he was staying in this hotel which only cost him about a dollar a day, and he was starting to paint, like he told them he wanted to do when he wrote that career book and they wouldn't listen to him. But now, he said, he had his chance and there wasn't anybody who could tell him different.

Well, he stayed there about a year, painting and all. Even told me he got involved with some French woman, although I really sort of had trouble imagining Bernie with any woman. Or even talking to one. But that's what he said. Said, too, that he couldn't get a job and do his painting. Sort of hinted that I send him some money, which I did. Said he didn't need much for food or anything, 'cause when your mind is at peace your body doesn't make any great demands on you.

But I guess he was wrong. About that body stuff, anyway. See, I was at the dock when Bernie came back on this ship. And I mean it really scared me. What I saw. I mean Bernie wasn't ever a really big guy. But he'd always be throwing that baseball around, or lifting weights--stuff like that. But when he got off the boat he must've been fifty pounds lighter than when I last saw him. All pale and sick looking, and like there was just enough of him to sort of hold up his clothes, which needed all the holding up they could get.

See, the last time I saw Bernie, and the way I remembered him, was when he went off to college with those city clothes, all neat and all even if he was funny looking. And now he was wearing what I guess were some old French army things. Rags, mostly. And his hair was all over the place. I mean he was really a mess.

Old Man Lieberman was there with me, and he just stood there looking at Bernie and crying. I mean really crying, and you sort of couldn't blame him. It must've seemed to him like all the stuff he wanted Bernie to be had died. Or maybe worse, had changed into that thing that came off the boat.

Well, Bernie hung around town for a couple of weeks, spending most of his time at the lake by himself. I mean his dog, Garuda, ran off, or was stolen or something when Bernie was off at college. Bernie missed him. I mean you could just see that. I guess that was the only thing he missed. One day Bernie showed me some of the paintings he did in Paris, and I guess I wish he didn't. I mean I told him I couldn't understand them and all, which was mostly true. But there was one which maybe I did. It was of a tall young guy with all kinds of muscles holding onto a big club. And what he was doing was beating this little old guy with it. And the old guy was like down on the ground trying to protect himself and all, but the guy with the club didn't stop. Just beat the old guy 'till all this blood and stuff was right under the skin.

He could really paint, old Bernie. I mean that thing looked real to me. Too real.

For a while there was some talk of Bernie going back to school in New Jersey. Not to be a doctor, though. Just to study things. But Bernie didn't go back there. What he did was go to live in New York where he got a job doing typing in some office, and went to school at night. Studied all kinds of things. Languages, music, even stuff like Japanese fighting--everything but science and math and doctor things. But he'd given all of it up. Said it was too easy and everybody at the school was too stupid for him. Then he'd try something else.

Last thing I heard Bernie said he'd found some brilliant old guy who was teaching him Aramaic, or some language like that. Said that it was interesting and he figured he was about at the point where he knew as much as the teacher and could go on teaching himself.

Of course I wondered why Bernie'd want to learn a language like that. I mean who'd he'd get to talk with. But then again, Bernie'd never been too good at talking to anybody. So I guess it didn't matter.

GIFTED AND TALENTED

AN

IDENTIFICATION MODEL

By

Cornelia Tongue and Charmian Sperling

A Title V, Section 505 Project
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FOREWORD

During the past two years, North Carolina, Kentucky and Louisiana with seven other State Departments of Education have had the opportunity of cooperating in a Gifted and Talented Special Project under Title V. Staff in our three State Agencies have, within this consortium, produced An Identification Model. The model is the product of bringing together some of the finest minds in the country to address a very difficult problem--how can gifted and talented children from diverse backgrounds be identified?

We feel that this model is designed in a flexible manner so as to allow for individual differences and preferences among local school officials who will be utilizing it to identify gifted/talented children. Usefulness to local school districts was a major objective. Some of the ideas are old; some are new; and some are integrated in different ways.

Our efforts have been worthwhile if the publication is used to place children into appropriate programs designed to maximize their potentials. It is our hope that An Identification Model can aid local school personnel toward that end.

A. Craig Phillips
State Superintendent of Public Instruction
State of North Carolina

James B. Graham
Superintendent of Public Instruction
State of Kentucky

Louis J. Michot, Superintendent
Louisiana State Department of Education

PREFACE

Upon receipt of a proposal submitted by the South Carolina Department of Education, the United States Office of Education, Title V, Section 505, headed by Dr. Dave Phillips, funded a ten-state Gifted and Talented Project. The ten states, representing three USOE Regions, were North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Kentucky, South Dakota, and Wyoming. James Turner, consultant in Gifted Education in South Carolina, functioned as the able Project Director. His leadership and Dave Phillips' guidance insured success from the beginning. The first year, July 1, 1974-June 30, 1975, was keyed to "Awareness." The proposal for the second year of funding divided the same ten states into three groups of work in an "Identification Component," a "Program Component," and an "Inservice Component" to produce practical models with accompanying appropriate media for local school district adaptation. North Carolina, Kentucky and Louisiana elected to develop the Identification Model with North Carolina as the lead state. Theodore R. Drain, Director, Division for Exceptional Children, North Carolina Department of Public Instruction, was given supervisory responsibility for production of the identification model.

The State representatives--Cornelia Tongue (North Carolina), Charmian Sperling (Kentucky) and Gil Browning (Louisiana)--sought help from the most knowledgeable people in the country in this area of interest while keeping within the project budget and time line.

Funds were available in each component to have three planning meetings, to bring consultants to these meetings, and to make selected on-site visits. Planning meetings for the Identification Component were held in Raleigh in October, Louisville in January, and Atlanta in February. Consultants were called in to meet with the component participants. Staff members from the three states seized opportunities for on-site visits to other recognized leaders in the field or attended previously scheduled conferences, such as the Terman Symposium in Baltimore in November, The Association for the Gifted (TAG) Regional in Atlanta in December, and the North Carolina Gifted and Talented Conference in March. North Carolina Gifted and Talented staff members Henri Fisher and Henry Johnson, Kentucky Department of Education's Frank Howard, and Louisiana Department of Education's Lillie Gallagher worked closely with the state representatives in developing this publication.

The component states are most appreciative to the following people, who generously gave of their time and expertise:

Dr. James Gallagher, Director, Frank Porter Graham Child Development Center, and Kenan Professor at the University of North Carolina at Chapel Hill; former president of TAG

Dr. Miriam Goldberg, professor, Columbia University, New York, New York

Mr. Al Hatch, educational consultant, Los Angeles Unified School District, Los Angeles, California; coordinator of The Educationally Disadvantaged Developmental Pilot, Los Angeles Unified School District

Dr Charlotte Malone, Western Behavioral Sciences Institute, La Jolla, California

Dr. Mary Meeker, professor, Loyola Marymount University, Los Angeles, California and consultant for S.O.I. Institute, El Segundo, California

Dr. Joseph Renzulli, professor, University of Connecticut, Storrs, Connecticut; former president of TAG

Dr. Clifford Stallings, associate professor, U. S. International University, San Diego, California; consultant to the San Diego City Schools; consultant for the United States Navy, San Diego, California

Mrs. Betty Stovall, Director, Talent Development Program, Charlotte-Mecklenburg Schools, Charlotte, North Carolina

Dr. Calvin Taylor, professor, University of Utah

Dr. E. Paul Torrance, professor, University of Georgia

Dr. Frank Williams, consultant in curriculum, creativity and the affective domain, Salem, Oregon

All of these people have played a vital part in the production of this model.

Copies of the Identification Model have been duplicated in sufficient numbers so that every local administrative agency (LEA) in each of the ten Project states can receive a copy. Each state education agency (SEA) Gifted and Talented Office has a set of the media presentation, developed by John Rader, Consultant for Gifted and Talented in the Indiana Department of Education. The media presentation, a simulation activity underscoring the necessity for multiple criteria identification procedures, is available through the SEA Gifted and Talented Office.

C. T.
C. S.

Chapter 1

IDENTIFICATION: PROBLEMS AND CHALLENGES

Identification of the gifted and talented is and has been one of the major challenges in gifted child education. For half a century educators have struggled with this problem. Their concern has focused around the issue of intelligence and how it can be measured. For a time the problem appeared under control, for the massive Terman study addressed the situation and gave respectability to intelligence tests (IQ tests) as a means of measuring mental ability of the individual.

Terman developed a list of major characteristics or traits of the "typical" gifted child--his intellectual abilities, his physical characteristics, his social/emotional strengths and weaknesses, and his likes and dislikes--which were welcomed and considered highly authorative. He had taken Binet's work in France and validated it on children in the environs of Stanford University. However, the children in the study did not represent a cross section of the multi-cultural American society--they were from a highly sophisticated and education-conscious socio-economic environment. The Stanford-Binet is an excellent, highly reliable, individual test when used on a population similar to the one on which it was validated.

Many of the standardized group intelligence tests which were subsequently developed and are presently in use have been validated on white, middle class, surburban subjects. Group IQ tests have, as a rule, the convenience of being shorter, more easily scored, and usable with large groups of children simultaneously--hence, their popularity and wide-spread use. The Report to the Congress by the U. S. Commissioner of Education states that group tests present special problems in that they discriminate against the highly gifted as few items address this population.[1] The Report stated that "half of an identified gifted population remains unidentified with group tests alone.... the higher the ability, the greater the probability the group test would overlook such ability."[2]

Martinson reinforces this saying, "These tests are designed for the majority of pupils within certain age and grade ranges; the content suitable for the gifted, who perform at advanced levels, typically is limited to a few items.... It is not uncommon for a child's IQ to vary 30 points from an individual to a group test, especially at the upper levels of measured intellectual ability."[3]

Pegnato and Birch's study of the entire population in a large metropolitan junior high school had this interesting result:

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[1] Education of the Gifted and Talented, Report to the Congress by the U. S. Commissioner of Education, March 1972, p. 18.

[2] Ibid., p. 18.

[3] Ruth Martinson, The Identification of the Gifted and Talented, Ventura, California: The Office of the Ventura County Superintendent of Schools, 1974. p. 40.

. on the Otis with a cutoff point of 125, over half of the gifted including those with Binet scores of 145 to 161 failed to qualify.[4]

Use of an instrument developed and validated on one population to evaluate a dissimilar population has raised special problems and questions. Children from different cultural or subcultural environments, especially if English is their second language, suffer a decided handicap when administered a verbal IQ test. A verbal test is a reading-vocabulary test, not a true measure of intelligence. When used as a means to evaluate reading, it is one thing; however, when used to measure intellignece or intellectual ability or potential, it becomes something else. Both Stallings[5] and Meeker[6] agree that educators must evaluate children *within the frame of reference of their experience.* If a child misses some test item that is within his experiential range, this would be an accurate indication of lack of intellect. If he missed the item due to his limited background range, this then becomes not lack of intellect, but lack of experience; and it should not be weighed in an evaluation of the child's intellectual ability.

The question of nurture and/or nature has long been debated and continues to raise its head. Which is more important? The purpose of this publication is not to get into a philosophical or societal discourse on the topic, for there is adequate information on this matter in the literature. Suffice it to say that we must recognize that this unsolved problem is with us and must be taken into account. The one major concept that can be accepted from it is this--how a child received his intelligence is not the major concern; the major concern is how do we find the gifted and talented child regardless of environment and heredity and how do we evaluate the child's abilities and talents.

It is of more than passing interest to note that projects being funded through the United States Office of Education, Bureau of Education for the Handicapped, are moving away from the use of IQ measures and a strictly academic concept of giftedness to more functional models for student assessment. Federal Courts and the Office of Civil Rights have moved against standardized group IQ tests. (The State of California has banned use of any IQ tests in placing mentally retarded children into programs.) Can active criticism of both individual IQ tests and standardized achievement tests and instruments be far behind, due to the populations these measures have been validated on with subsequent discrimination against culturally different children?

Parallel to the attention being focused on the limitations of standardized tests which assess academic talents is the movement to broaden the concept of giftedness. Many State Educational Agencies (SEA's) and LEA's have moved from a strictly cognitive, academically-oriented program for the highly gifted to a program in the academic/creative/multi-talent development areas. Several things have been causal:

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[4]Ibid., p. 41.

[5]Dr. Clifford Stallings - Component Planning Meeting, Raleigh, October 27, 1975.

[6]Dr. Mary Meeker - interviewed in Charlotte, October 30, 1975, by Henry Johnson.

1. a recognition that programs for the gifted based on high IQ scores do not serve all the gifted children;

2. the question of what actually is "giftedness?" are there other kinds of giftedness, such as "street smart"? (Bruch and Torrance in Georgia, Stallings in California, Sullivan in Minnesota and R. Williams in Missouri have been exploring and working in this area);

3. parental and education administrative interest in and subsequent support of the broader group of the above average child, the upper ten percent, "the near gifted," rather than the restricted two to three percent "highly gifted";

4. a growing awareness that multi-talents such as leadership, productive thinking, planning and plan implementation, decision-making, forecasting and communication cannot be isolated from academic/intellectual talents;

5. the realization that intelligence is not restricted to one ethnic or socio-economic environment but is in all cultures.

This publication will attempt to open other alternatives and options for educational use in identifying our ablest children so that we can better provide for the particular gifts and talents they may have.

Chapter II

DEVELOPING A LOGICAL PLAN

The society in which we live, in order to continue to grow, to solve its problems, and to meet its challenges, must make a commitment to provide opportunities for maximum development of individual potential through differentiated opportunities for learning. Extraordinary abilities and talents are found in all segments of society. "Identification of each gifted individual must be made as early as possible."[1] The sooner a child's talent can be recognized, the sooner and more fully his special abilities can be encouraged and nurtured. "The identification process must be multi-dimensional and should concentrate on the many expressions of exceptionality."[2]

Now how and where does one begin?

A strong thread has run through the contacts with experts in the field of identification who were utilized in the development of the publication--*student identification cannot be separated from program development and teacher inservice.*[3] Gallagher[4] stressed that a local education agency or district cannot wisely start with student identification--it must always begin with an assessment of LEA strengths and weaknesses which can facilitate or limit program implementation. This point of view was reinforced by Renzulli, when he said his "golden rule" was, "Decide on what type of program you will have; then design the identification system to fit the program."[5] Curriculum development, staffing and inservice are dependent upon specific *program goals*. The LEA should determine system competencies and priorities; it should then pursue program development through a logical, systematic plan. It would seem inappropriate, for example, to design a program in science, utilize a teacher possessing outstanding language arts competencies but few math/science attributes, have a screening for multi-cultural children talented in the arts--and expect that the result will be a successful science program. With a fixed program goal as a priority, objectives can be listed, strategies to meet each objective developed, and inservice and evaluation planned.

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[1]Reported in the Blue Ribbon Gifted Committee for the State of California, 1974, and excerpted from a paper prepared by Dr. Clifford Stallings for the North Carolina meeting.

[2]Ibid.

[3]The other Project components are the Program Model (Florida, the lead state) and the Inservice Model (Georgia, the lead state). The three publications and their accompanying media products will form an integrated triad for each local educational district in all ten Project states.

[4]Dr. James Gallagher - Component Planning Meeting, Raleigh, October 27, 1975.

[5]Dr. Joseph Renzulli - Component Planning Meeting, Louisville, January 22, 1976.

This diagram (Figure 1) will illustrate the interrelatedness of the three components--identification, curriculum and staff development--within an LEA program.

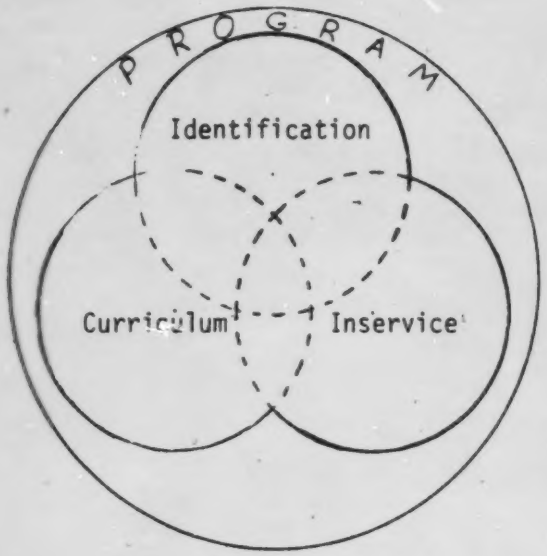

Figure 1

Stovall[6] has developed the model opposite (Figure 2) for use in the program for gifted and talented in the Charlotte-Mecklerburg Schools. The model summarizes LEA goals and objectives. Careful scrunity will reveal the various program components interrelate and flow with Student Identification superimposed over all. The model moves at the core from Content to Process to Process to Product. Surrounding this core is skills development for each of the three segments. Beyond is the linking concentric band of divergent thinking to convergent thinking to divergent thinking to convergent thinking. The ultimate goal of the Charlotte-Mecklenburg program is the total development of the child--the development of his total personality. Superimposed is identification.[7]

After the Program Component is established, the next step would be twofold.... Who are the gifted to be served and how many children can be included?

State Departments of Education and local school districts vary as to the total number of children to be included. Some go from the upper two percent in California's highly gifted program to the three percent (Georgia), the five percent (Connecticut), or the ten percent (North Carolina)--a range from the "highly" gifted to the "near" gifted.

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[6]Mrs. Betty J. Stovall, Director, Talent Development Program, Charlotte-Mecklenburg Schools, Charlotte, North Carolina, and presented at the Component Planning Meeting in Raleigh.

[7]Another publication will discuss Program in detail.

PROGRAM MODEL

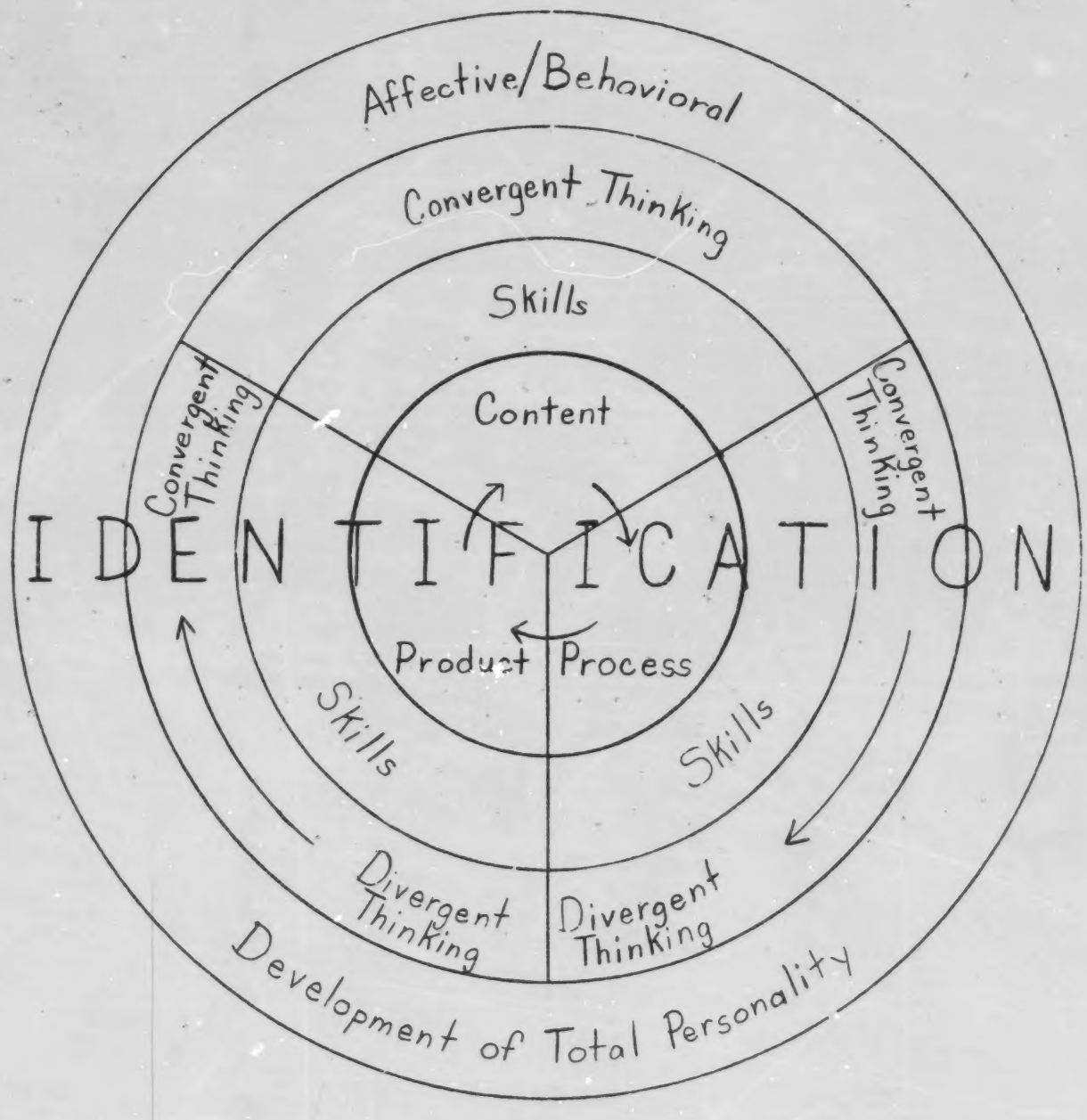
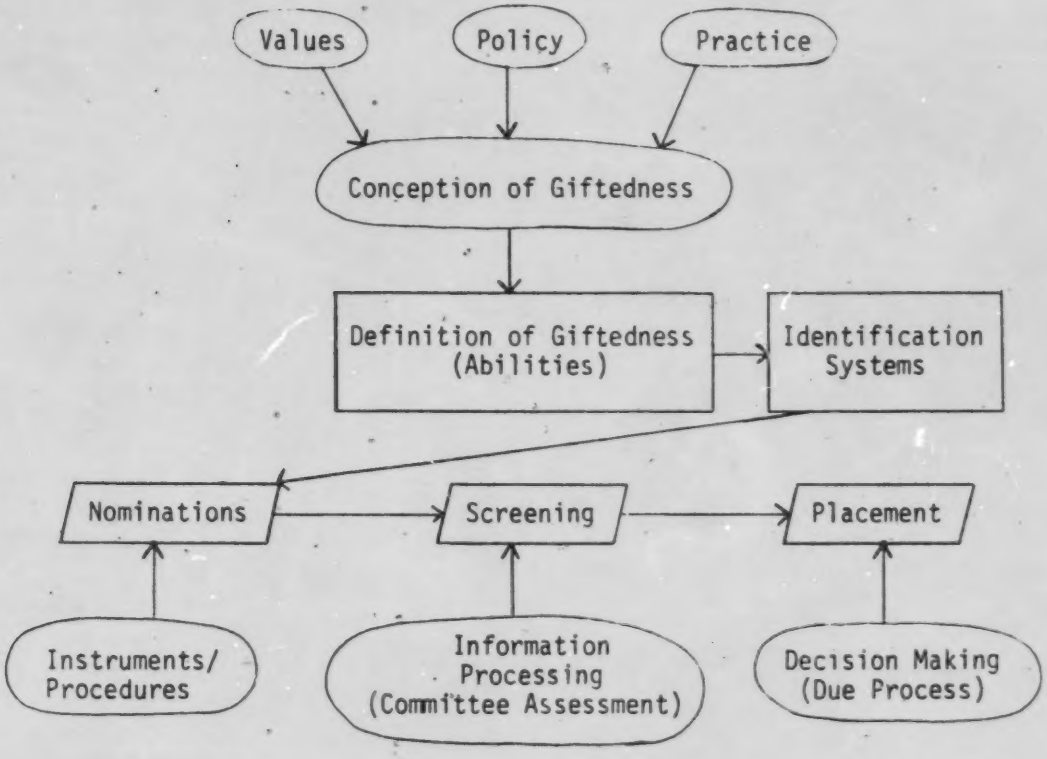


Figure 2

Renzulli shared a workable model at the Component Planning Meeting in Louisville to help LEA's make some of these decisions. Once an LEA decides on its conception and definition of giftedness (see Chapter III), it is then ready to set up a screening, identification and placement procedure.

RELATIONSHIP BETWEEN CONCEPTION AND DEFINITION OF GIFTEDNESS AND THE IDENTIFICATION SYSTEM



As this Identification Model publication is used, certain concepts need to be kept uppermost in mind. Some basic decisions must be made which have already been discussed. Later chapters will address instruments. It is strongly suggested that after use of this publication and after careful and thoughtful deliberation, *a master LEA plan of definition, identification strategies and placement procedures be developed, written, and approved/ adopted by the local Board of Education.* These plans should be written in concert with the current Policies and Regulations of the State Board of Education. Due process procedures as defined by State and Federal law, the Courts and the Office of Civil Rights should be rigidly addressed--i.e., parental permission for evaluation other than regular routine testing, placement by a Placement Committee, parental permission before any child is placed into any special gifted/talented program and the right of appeal to placement. States with fully developed regulations could be asked for technical assistance in implementing this recommendation. See sample placement procedures in Appendix D.[8]

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[8]Each of the ten Project State consultants has copies of sample forms which may be used or modified to accompany due process placement procedures.

Chapter III

CHARACTERISTICS AND POPULATIONS

Beginning with Terman, almost every author in the area of gifted child education has listed the characteristics of the gifted and talented. All persons working in this area have these lists. One of the most refreshing was given by Goldberg:[1]

1. they are earlier than their peers to see relationships;
2. they deal at a higher level of abstraction;
3. they remember more and retrieve from memory easier and quicker;
4. they encode and decode readily;
5. they function at higher cognitive levels (as described by Piaget) earlier than the generality;
6. they are able to free themselves from the bounds of appearences into abstract thought;
7. they are interested in basic questions--"What is the meaning of life?"
8. they want to know why they are to do certain things and are not satisfied with, "It's the rule.";
9. they have a high level of moral judgment but not necessarily moral behavior;
10. they seek out challenge;
11. they develop basic learning skills earlier;
12. some are more mature, but there is less difference here when compared to the average;
13. they learn to cope, can work out ways of coping, and learn to compensate;
14. they are able to solve problems, especially in communications;
15. due to their differences, they can become anxious about their relationship with their peers and haven't lived long enough to resolve the resultant conflict;

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[1] Dr. Miriam Goldberg at the Kentucky State Conference on Gifted and Talented Children and Youth, April 15, 1975. This conference was funded by the first year of the Project in the "Awareness" stage.

16 frequently they are singleminded in pursuit of that which captures their interest and are sometimes difficult to redirect into other activities;

17. they seek out the company of others with similar interests.

18. "They have a kind of style, an ease of performance."

She remarked that the creative gifted child is difficult to identify on instruments. Performance is a better indicator. The creative have an enormous openness to experiences and are efficient in receiving and processing stimuli. They have a strong desire to perform in their talent area and seek out others with similar interests. Torrance[2] has stated that creativity is not hereditary--it can be cultivated in a conducive environment.

Goldberg stated that the gifted and talented are an extremely heterogeneous group, having frequently only their unusual ability as a common factor. She emphasized that gifted children are not equally gifted in all areas and have many unique and individual needs.

"Giftedness appears in many different forms in every cultural group and at every level of society," says Paul Witty.[3] His statement has been reaffirmed and underscored by all of the consultants utilized in preparation of this report as well as by scores of additional researchers and experts in the field of gifted education.

A population which has frequently been overlooked and omitted from gifted programs is one which has been termed "culturally different." Culturally different children are those who fall outside the mainstream of society's dominant culture. It is not unusual for them to score poorly on commonly used assessment isntruments which are verbally loaded with environmentally dependent items. The culutrally different child may belong to several different populations:

he may be inner-city;

. he may be bilingual with standard English as a second language;

he may be a rural child who is isolated from a rich and stimulating environment.

Membership in these groups does not necessarily constitute the kind of cultural difference which would place a child at an educational disadvantage. A rural child may be well traveled, well educated and very much a part of the mainstream of American society and culture. *The major factor that determines*

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[2]At the Third Annual North Carolina Gifted and Talented Conference, Winston-Salem, March 20, 1976.

[3]Paul Witty, editor, The Gifted Child, Boston: D. C. Heath and Company, 1951, p. 10.

the extent to which a child is considered to be "culturally different"--and disadvantaged by that difference--is the degree to which he lacks exposure to the types of enriching experiences which are valued in American education.

Another general description could be added to familiar lists of characteristics of gifted children to help educators look at the target population in a different and more inclusive way.

Gifted children are those among others "who excel within their environment in a creative or exceptional manner as defined by the values and expectations of the people of that community."[4] Important and relevant information in one culture does not necessarily hold the same value in another. The children from suburban Menlo Park, California, on whom the Stanford-Binet test of intelligence was standardized, have little common--culturally, environmentally, socio-economically--with children reared in urban ghettos or isolated farmhouses. Essential survival and/or functioning skills differ from culture to culture, as do language usage, customs and basic values. It is, for example, just as unreasonable to expect a child reared in an isolated rural area to be able to operate an elevator in a high-rise apartment building as it is to assume that a young urban child will be able to successfully milk a cow the first time around. Such skills are not basic or intuitive; they are learned, as is the vocabulary that describes and accompanies the environmentally-based experience.

Gifted children--whether they be Navajo, female, black, white, Chicano, handicapped, rural, urban, or any other possible "non-mainstream" group member--will exhibit certain general characteristics and/or behaviors. Stallings characterizes the gifted child as one who:

1. creates and invents beyond the parameters of knowledge in the field;

2. explores wide-ranging and special interests not usually associated with children of his age; relate well with peers and adults who have similar interest;

3. employs a high intellectual and creative skill in assessing his or her physical and social environments, in solving problems, and in creating products;

4. demonstrates richness of imagery in informal language and brainstorming;

5. generates many ideas and multi-solutions to problems;

6. copes with environmental situations in resourceful and creative ways;

7. expends much energy and time in pursuing special interest; may be involved in numerous projects and activities;

8. becomes excited by new ideas but often without carrying them through;

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[4]From the Stallings' paper, the Raleigh Component Planning Meeting.

9. has ability to improvise with commonplace materials;

10. has high expectations of self and others, which often leads to high levels of frustration with self, others, and situations.

Hatch recommends that classroom teachers become aware of potential giftedness in children who exhibit:

. "independence of action

. fluency in verbal and non-verbal communication

. flexibility in approach to problems

. curiosity and desire to know more

. imagination and originality in patterns of thinking

. interest in a variety of things."[5]

These various lists of characteristics give emphasis to the need for a differentiated identification methodology to accommodate the variety of gifts and talents manifested in a multi-cultural society.

The need for LEA's in the Project States to carefully consider differentiated identification procedures is dramatically illustrated by the diverse cultures and sub-cultures that are evident within their borders:

. large metropolitan cities with inner city sub sections--Miami and Jacksonville in Florida; New Orleans, Louisiana; Louisville, Kentucky; Charlotte, North Carolina

. merged city, suburban and rural LEA's--Winston-Salem/Forsyth, Charlotte-Mecklenburg, Raleigh/Wake in North Carolina; Louisville/Jefferson County in Kentucky

. small town LEA's

. suburban "bedroom communities"

. rural 99 percent white--Appalachia in North Carolina, South Carolina, Kentucky, Georgia

. rural 90 percent black--the Atlantic and Gulf coastal plain running from North Carolina to Louisiana

. cities with large majority black--Atlanta, Georgia and Durham, North Carolina

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[5]Al Hatch, "The Educational Needs of Disadvantaged Gifted Pupils," Talents and Gifts, (official newsletter of The Association of the Gifted), Vol. 17, No. 3, April, 1975, p. 6. This was also discussed in Los Angeles on January 14, 1976, with Charmian Sperling and Henri Fisher.

. cities with large minority foreign speaking sections--Miami, Florida

. isolated rural--Wyoming and South Dakota ranchlands

. rural with large foreign speaking population--Louisiana bayou country

Meeker stressed that any model dealing with this diversity of population must have varied components.[6]

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[6]Meeting in Charlotte.

Chapter IV

AN IDENTIFICATION MATRIX

Although many of the consultants contributed ideas concerning a "matrix" for identification purposes, the contributions of Dr. Frank Williams were invaluable in the formalization of the matrices which follow.

Organization of the Matrix

Along the horizontal axis of Chart 1, the matrix is divided into three broad categories: test data, performance data, and developmental data. These categories have been subdivided into specific procedures. Along the vertical axis are listed five general talent categories: academic/intellectual, artistic/expressive, leadership/psychosocial, divergent production/processes and kinesthetic. Definitions for the five talent categories follow:

- academic/intellectual - high academic aptitude and/or achievement in one or more fields of study
- artistic/expressive - visual and/or performing arts
- leadership/psychosocial - high level of leadership, social and communications skills, and superior moral judgment
- divergent production/processes - advanced insight, outstanding imagination, innovative or creative reasoning ability, problem solvin ability and original and productive thinking
- kinesthetic - manipulative skills (sculpture, mechanics), expressive and artistic body movement

The similarities and differences of the mainstream gifted and culturally different gifted child have been discussed previously. Because differentiated identification procedures are recommended, two matrices have been filled in: one incorporates suggestions for the identification of the mainstream child (Chart 2) and one contains recommendations for the culturally different child (Chart 3). Persons using the matrices should carefully consider which matrix would be most appropriate for each child. To facilitate use by LEA's having diverse populations, a matrix combining both sets of suggestions has been included (Chart 4).

Use of the Matrix

It is strongly recommended that the identification process include specific selection procedures from each of the three broad horizontal categories. Program goals will determine which vertical categories are used.

An explanation of each horizontal category follows.

Chart 1

AN IDENTIFICATION MATRIX

	TEST DATA								PERFORMANCE DATA						DEVELOPMENTAL DATA
										Nominations Checklists, Scales					
	Intelligence	Achievement	Creativity-Divergent Thinking	Aptitude	Divergent Feeling	Biographical Inventory	Culture Free	Grades	Demonstration of Skills	Teacher and/or Other School Personnel	Peer	Parent	Self	Case studies, anecdotes, biographical data and interviews
Academic/ intellectual														
Artistic/ expressive														
Leadership/ psychosocial														
Divergent production/ process														
Kinesthetic														

Test Data

Seven different types or kinds of tests have been categorized in the matrix; possible test suggestions, including publishers' names, can be found in Appendix A.

It is generally accepted that if IQ tests are to be used, individual measures like the Binet or WISC are the best. Martinson says, "The Stanford-Binet is the best identification currently available. The limitations of this and other instruments are recognized, and the frequent criticisms of this instrument and others as heavily loaded with verbal factors is discussed in the text [in the footnoted book--authors]. Yet, it is important to keep in mind that verbal ability is crucial in the thinking process, in ability to solve problems, and that verbal ability itself is not unidimensional."[1]

Robert L. Thorndike at Columbia University says that the Binet is the most stable over the years having been revised in 1937 and 1960 and renormed in 1972. It "has been for most of the past 60 years the workhorse of psychometric appraisal of cognitive development, the standard against which other tests of cognitive abilities have been evaluated, and more recently a prime target for the social critics of ability testing."[2]

According to Meeker, children who can handle language (or "culture" as she calls it) can use the Binet or other like tests. Children who cannot handle semantics or handle them poorly cannot be evaluated fairly on verbal measures and most group IQ tests are verbal. Children who handle semantics poorly are everywhere and are handicapped due to sub cultural restrictions or physiological problems. With children who do not fit the generally accepted "mold" of the gifted--i.e., the ability to handle high semantics--educators must look to behavior correlates (attention span, perseverence, curiosity, energy, etc.) and behavioral scales and checklists.[3]

Gallagher[4] recommends that no IQ tests of any sort be used after the elementary grades or ages eleven and twelve, for demonstrated ability at this point becomes more relevant.

An acknowledged limitation of the use of individual IQ tests is the cost. Widescale use of such individual assessment procedures would soon bankrupt most school systems. The impracticality is further compounded by the lack of qualified psychologists. How could the 36,701 gifted and talented students in North Carolina receiving service in 1975-76 have been individually tested by qualified personnel?

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[1]Ruth A. Martinson, The Identification of the Gifted and Talented, Ventura, California: The Office of the Ventura County Superintendent of Schools, 1974, p. 1.

[2]Robert L. Thorndike, "Mr. Binet's Test 70 Years Later," Educational Researcher, Vol. 4(5), May, 1975, pp. 3-4.

[3]Meeker, meeting in Charlotte.

[4]At Raleigh meeting.

Chart 2

THE MAINSTREAMED GIFTED STUDENT

	TEST DATA							PERFORMANCE DATA (Nominations Checklists, Scales)						DEVELOPMENTAL DATA
	Intelligence	Achievement	Creativity-Divergent Thinking	Aptitude	Divergent Feeling	Biographical Inventory	Culture Free	Grades	Demonstration of Skills	Teacher and/or Other School Personnel	Peer	Parent	Self	Case studies, anecdotes, biographical data and interviews
Academic/ intellectual	X	X		X		X		X	X	X	X	X	X	X
Artistic/ expressive			X		X	X			X	X	X	X	X	X
Leadership/ psychosocial				X		X			X	X	X		X	X
Divergent production/ process			X		X				X	X	X	X	X	X
Kinesthetic				X					X	X	X	X	X	X

Chart 3

CULTURALLY DIFFERENT GIFTED STUDENT

	TEST DATA							PERFORMANCE DATA						DEVELOPMENTAL DATA
										Nominations Checklists, Scales				
	Intelligence	Achievement	Creativity-Divergent Thinking	Aptitude	Divergent Feeling	Biographical Inventory	Culture Free	Grades	Demonstration of Skills	Teacher and/or Other School Personnel	Peer	Parent	Self	Case studies, anecdotes, biographical data and interviews
Academic/ intellectual			0	0			0		0		0	0	0	0
Artistic/ expressive			0	0		0			0	0	0	0	0	0
Leadership/ psychosocial						0			0	0	0		0	0
Divergent production/ process			0	0					0	0	0	0	0	0
Kinesthetic									0	0	0	0	0	0

Torrance[5] emphasizes that use of creativity tests to determine intellectual capacity is foolhardy. Creativity tests should be used to measure what they are intended to measure--creativity; intelligence tests should be used to measure what they are designed to measure. They should not be used interchangeably.

Performance Data

This broad category contains three separate indicators (measures) of performance:

. grades

. demonstration of skills

. nominations, checklists and scales.

It is strongly recommended that identification procedures in this category include two of the separate measures of performance, *one of which should be demonstration of skills.* Projects or products developed and produced by students are concrete evidence of talent and giftedness. The product may be something tangible that has been made by the child, individually or in groups, or may be a live demonstration of a skill.

The literature indicates that peer nominations are highly reliable.[6] The Project consultants stressed its significant value in evaluating culturally different children.[7] Appendix B contains sample forms.

Open-ended teacher nominations have been shown to have low reliability;[8] however, checklists used to focus teacher attention to particularly significant behaviors of gifted children have much greater reliability. Teacher nominations should be made well into the year when teachers are familiar enough with the children to access them accurately. Examples of nominations, checklists and scales are found in Appendix B.

Parent nominations are particularly relevant at the early childhood level. Although parents of young children tend to over nominate, recent research suggests that their perceptions of their children's behaviors and characteristics are more accurate than those of the children's teachers.[9]

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[5]Third Annual North Carolina Gifted and Talented Conference.

[6]Martinson, p. 46.

[7]Renzulli, Stallings, Stovall, Williams

[8]A discussion of this can be found in Martinson, beginning at p. 17 and in the Report to the Congress, p. 18.

[9]On-site meeting of Sperling and Fisher with Dr. Charlotte Malone in San Diego; Martinson, p. 46-48; and Thomas E. Ciha, Ruth Harris, Charlotte Hoffman and Meredith Potter, "Parents as Identifiers of Giftedness, Ignored but Accurate," The Gifted Child, Autumn, 1974, pp. 191-195.

Chart 4

X - THE MAINSTREAMED GIFTED STUDENT

O - CULTURALLY DIFFERENT GIFTED STUDENT

	TEST DATA							PERFORMANCE DATA						DEVELOPMENTAL DATA
										Nominations Checklists, Scales				
	Intelligence	Achievement	Creativity-Divergent Thinking	Aptitude	Divergent Feeling	Biographical Inventory	Culture Free	Grades	Demonstration of Skills	Teacher and/or Other School Personnel	Peer	Parent	Self	Case studies, anecdotes, biographical data and interviews
Academic/ intellectual	X	X		X		X		X	X	X	X	X	X	X
			O	O			O		O		O	O	O	O
Artistic/ expressive			X		X	X			X	X	X	X	X	X
			O	O		O			O	O	O	O	O	O
Leadership/ psychosocial				X		X			X	X	X		X	X
						O			O	O	O		O	O
Divergent production/ process			X		X				X	X	X	X	X	X
			O	O					O	O	O	O	O	O
Kinesthetic				X					X	X	X	X	X	X
									O	O	O	O	O	O

Developmental Data

Information in this third large category within the matrix can be revealed through case studies, biographical data, anecdotes, and interviews. Little known information, abilities manifested at an early age, precocity, and extra curricular activities can be flushed out through these processes. In addition, a high level of motivation in non-school related activities may be revealed. This could be evidence that a child has stuck to a problem or topic for a long time regardless of IQ scores. This is not a "what is your hobby?" but "how long have you had an interest in and worked with this topic?" This would allow for the discovery of the child who is described by Witty as one with a "consistently remarkable" interest or activity. Meeker speaks to perseverence. The significance of motivation/perseverence as a factor is borne out in the lives of great late bloomers, like Pasteur and Edison, whose giftedness might not have been discovered by any other standard identification procedure.

Found in Appendix C are two sample Student Profile formats. Each school district should develop its own to meet LEA and program needs.

Conclusion

Beginning in September, 1975, and ending in June, 1976, the three component SEA staffs have brought together a unique group of nationally recognized authorities in the field of gifted education to help them in the production of this model. It is hoped that a practical model has been developed which will help LEA personnel better evaluate the multi-dimensional gifts and talents of its children.

Appendix A

TEST/INSTRUMENT SUGGESTIONS

The three books listed below will prove invaluable to administrators responsible for identifying gifted and talented students. Buros lists all tests in print, publishers, authors and cites references which discuss them. Hoepfner gives, in greatest detail, information on various tests. Lyman has authored a little book explaining tests in layman's terms.

Buros, O. K. Tests in Print. Highland Park, New Jersey: The Gryphon Press, 1974.

Hoepfner, Ralph and others. CSE-RBS Test Evaluations: Tests of Higher Order Cognitive, Affective and Interpersonal Skills. Los Angeles, California: Dissemination Office, Center for the Study of Education, Graduate School of Education, University of California, 405 Hilgard Avenue, 1972. $8.50

Lyman, Howard B. Test Scores and What They Mean. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1971. $5.35

I. Intelligence

A. Individual:

Cattell Infant Intelligence Scale (ages 3-30 months)
Psychological Corporation

Concept Assessment Kit - Conservation (K-3)
Educational and Industrial Testing Service

Peabody Picture Vocabulary Test (ages 2.5 - 18)
American Guidance Service

Stanford-Binet Intelligence Scale (ages 2 and over)
Houghton Mifflin Company

Vane Kindergarten Test (ages 4-6)
Clinical Psychology Publishing Company, Inc.

Wechsler Intelligence Scale for Children (ages 5-15)
Psychological Corporation

Wechsler Preschool and Primary Scale of Intelligence (ages 4-6.5)

B. Group:*

California Test of Mental Maturity
McGraw-Hill

Cognitive Abilities Test (grades K-1, 2-3, 3-12)
Houghton Mifflin Company

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*Should be used only for initial screening of students in the cultural/societal mainstream.

Henmon-Nelson Tests of Mental Ability (grades K-2, 3-6, 6-9, 9-12)
Houghton Mifflin Company

Kuhlmann-Anderson Test (grades K-1, 2, 3-4, 4-5, 5-7, 7-9, 9-12)
Personnel Press

Lorge-Thorndike Intelligence Tests (grades K-13)
Houghton Mifflin Company

II. Acheivement Tests

California Achievement Tests (forms for all grade levels)
CTB/McGraw Hill

Iowa Tests of Basic Skills (forms for all grade levels)
Houghton Mifflin Company

Metropolitan Achievement Tests (forms for all grade levels)
Harcourt, Brace and Jovanovich

SRA Achievement Series (grades 1-9)
Science Research Associates, Inc.

Stanford Achievement Test (forms for grades 1.5-9)
Harcourt, Brace and Jovanovich

Wide Range Achievement Test, Revised (ages 5-11, 12+)
Guidance Associates of Delaware, Inc.

III. Creativity/Divergent Thinking

Graves Design Judgment Test (grades 7-16)
Maitland Graves - Psychological Corporation

Guilford Creativity Tests for Children (specific IQ tests) (grades 4-6)
Sheridan Psychological Services, Inc.

Iowa Tests of Music Literary (grades 4-12)
Bureau of Educational Research and Service

Torrance Tests of Creative Thinking - Verbal (grades 4-12)
Personnel Press

Torrance Tests of Creative Thinking - Figural (grades 1-12)
Personnel Press (use Frank Williams shorter key)

IV. Aptitude

Academic Promise Test (grades 6-9)
abstract reasoning, language, numerical verbal and non verbal
Psychological Corporation

Differential Aptitude Tests (grades 8-12)
Psychological Corporation

Guilford-Zimmerman Aptitude Survey (grades 9-16)
Sheridan Psychological Services, Inc.

S.O.I. Learning Abilities Test
S.O.I. Institute, El Segundo, California
("this is not an intelligence test.... It is a test of specific learning abilities....to form the foundation cluster for a student's learning reading and arithmetic." It will help pick out the able student and is a diagnostic instrument which can be used individually or in groups. It is based on Guilford's Structure of Intellect factors.)

V. Self-Concept Tests*

Early School Personality Questionnaire (ESPQ) (grades 1-3)
Institute for Personality and Ability Testing - 1602-04
Coronado Drive, Champaign, Illinois Copy 1966

How Do You Really Feel About Yourself? (HDYRFAY?) (grades 4-12)
Frank Williams
3760 Dallas Road, N.W.
Salem, Oregon 97304

Junior-Senior High School Personality Questionnaire (HSPQ) (grades 7-12)
Cattell and Porter
Institute for Personality and Ability Testing

The Piers-Harris Childrens' Self Concept Scale (The Way I Feel About Myself)
Counselor Recordings and Tests, Box 6184 Acklen Station, Nashville, Tennessee 37212
Manual $1.00; Test Booklets (nonreusable) 1-99 - 23¢ each, 100+ - 20¢ each
Grades 5-12 copyright 1969

School Attitude Test - McCallon Learning Concepts, 2501 N. Lamar, Austin, Texas 78705. Elementary

The Self-Concept and Motivation Inventory (SCAMIN) What Face Would You Wear?
Person-O-Metrics, Inc., Evaluation and Development Services, 20504 Williamsburg Road, Dearborn Heights, Michigan 48127 - copyright 1968.
Grades 1-3 (early elementary form)
Grades 5-12 (intermediate form)

Self Esteem Inventory (SEI) by Coopersmith at the University of California at Davis - grades 5-12 (shorter than the Piers-Harris)

Modified SEI Grades 1-4

The Tennessee Self Concept Scale (TSCS)
Counselor Recordings and Tests
Specimen Sets - $1.50 - grades 5-12

VI. Divergent Feeling

Barron-Welsh Art Scale: A Portion of the Welsh Figure Preference Test (ages 6-18)
Consulting Psychologists Press, Inc.

Personality Rating Scale (grades 4-12)
Educators'-Employers' Tests and Services Associates

Mooney Problem Check List (grades 7-9, 9-12)
Psychological Corporation

VII. Biographical Inventory

Alpha Biographical Inventory (grades 9-12)
Institute for Behavioral Research in Creativity, Salt Lake City, Utah

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*Although these tests may be irrelevant for identification of giftedness per se, they can be extremely useful in assessing the affective needs of gifted children.

Biographical Inventory, Form R (grades 9-12) keys for creativity in art and music, academics, and leadership
North Carolina Department of Public Instruction

VIII. Culture Free

Cooperative Preschool Inventory (ages 3-6)
standardized on disadvantaged children
Cooperative Tests and Services

Culture Fair Intelligence Test (ages 4-8, 8-14, 13-16) Cattell and Cattell - Institute for Personality and Ability Testing (IPAT)

Goodenough-Harris Drawing Test (ages 3-15) "Draw-a-Man-Test"
Harcourt, Brace and Jovanovich

Stallings' Environmentally Based Screen (S.E.B.S.)
This is a measure which can be used for initial screening of culturally different children. "SEBS is a quick supplement to existing instruments of intelligence testing; it is not intended to replace any existing instrument now available." It is especially useful with children who attend neighborhood schools.

Dr. Clifford Stallings
U. S. International University
San Diego, California

IX. Kinesthetic

Standardized instruments to measure fine motor skills do not appear to be available. Fine motor skills would be best determined through demonstrated skills such as ballet, instrumental music (violin, etc.) and gymnastics. Gross motor skills can be evaluated on the following:

AAHPER Youth Fitness Test (grades 5-16) (American Association for Health, Physical Education, and Recreation) 7 scores - pull-up, sit-up, shuttle run, etc.

CAHPER Fitness-Performance Test (ages 7-17)
Canadian Association for Health, Physical Education, and Recreation

Appendix B

IDENTIFICATION SUGGESTIONS--PERFORMANCE DATA

SCALES

The Renzulli-Hartman Scale
for Rating Behavioral Characteristics of Superior Students*

Name_____ Date_____

School_____ Grade_____ Age_____
Yrs. Mos.

Teacher of person completing this form_____

How long have you known this child? _____Months.

DIRECTIONS. These scales are designed to obtain teacher estimates of a student's characteristics in the areas of learning, motivation, creativity, and leadership. The items are derived from the research literature dealing with characteristics of gifted and creative persons. It should be pointed out that a considerable amount of individual differences can be found within this population; and therefore, the profiles are likely to vary a great deal. Each item in the scales should be considered separately and should reflect the degree to which you have observed the presence or absence of each characteristic. Since the four dimensions of the instrument represent relatively different sets of behaviors, the scores obtained from the separate scales should not be summed to yield a total score. Please read the statements carefully and place an X in the appropriate place according to the following scale of values.

1. If you have seldom or never observed this characteristic.
2. If you have observed this characteristic occasionally.
3. If you have observed this characteristic to a considerable degree.
4. If you have observed this characteristic almost all of the time.

Space has been provided following each item for your comments.

SCORING. Separate scores for each of the three dimensions may be obtained as follows:

Add the total number of X's in each column to obtain the "Column Total."

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*Exceptional Children, Volume 38, Number 3, November, 1971, pp. 211-214, 243-248 and Dorothy F. Syphers, Gifted and Talented Children: Practical Programming for Teachers and Principals. Arlington, Virginia: The Council for Exceptional Children, 1411 South Jefferson Davis Highway, Suite 900. Developers are Dr. Joseph Renzulli, University of Connecticut, and Robert K. Hartman, Darien City Schools, Connecticut. Children with the highest scores on each behavior can be ranked. The behavior scores used in the student profile will be determined by the type of program being established.

Multiply the Column Total by the "Weight" for each column to obtain the "Weighted Column Total."
Sum the Weighted Column Totals across to obtain the "Score" for each dimension of the scale.
Enter the Scores below.

Learning Characteristics....._____

Motivational Characteristics....._____

Creativity Characteristics....._____

Leadership Characteristics....._____

PART I: LEARNING CHARACTERISTICS

1. Has unusually advanced vocabulary for age or grade level; uses terms in a meaningful way; has verbal behavior characterized by "richness" of expression, elaboration, and fluency.
2. Possesses a large storehouse of information about a variety of topics (beyond the usual interests of youngsters his age).
3. Has quick mastery and recall of factual information.
4. Has rapid insight into cause-effect relationships; tries to discover the how and why of things; asks many provocative questions (as distinct from information or factual questions); wants to know what makes things (or people) "tick."
5. Has a ready grasp of underlying principles and can quickly make valid generalizations about events, people, or things; looks for similarities and differences in events, people, and things.
6. Is a keen and alert observer; usually "sees more" or "gets more" out of a story, film, etc. than others.
7. Reads a great deal on his own; usually prefers adult level books; does not avoid difficult material; may show a preference for biography, autobiography, encyclopedias, and atlases.
8. Tries to understand complicated material by separating it into its respective parts; reasons things out for himself; sees logical and common sense answers.

	1*	2	3	4
Column Total				
Weight	1	2	3	4
Weighted Column Total				
TOTAL				

*1--Seldom or never
2--Occasionally
3--Considerably
4--Almost always

PART II: MOTIVATIONAL CHARACTERISTICS

	1	2	3	4
1. Becomes absorbed and truly involved in certain topics or problems; is persistent in seeking task completion. (It is sometimes difficult to get him to move on to another topic.)				
2. Is easily bored with routine tasks.				
3. Needs little external motivation to follow through in work that initially excites him				
4. Strives toward perfection; is self critical; is not easily satisfied with his own speed or products.				
5. Prefers to work independently; requires little direction from teachers.				
6. Is interested in many "adult" problems such as religion, politics, sex, race--more than usual for age level.				
7. Often is self assertive (sometimes even agressive); stubborn in his beliefs.				
8. Likes to organize and bring structure to things, people, and situations.				
9. Is quite concerned with right and wrong, good and bad; often evaluates and passes judgment on events, people, and things.				
Column Total				
Weight	1	2	3	4
Weighted Column Total				
TOTAL				

PART III: CREATIVITY CHARACTERISTICS

	1	2	3	4
1. Displays a great deal of curiosity about many things; is constantly asking questions about anything and everything				
2. Generates a large number of ideas or solutions to problems and questions; often offers unusual ("way out"), unique, clever responses.				
3. Is uninhibited in expressions of opinion; is sometimes radical and spirited in disagreement; is tenacious.				
4. Is a high risk taker; is adventurous and speculative.				
5. Displays a good deal of intellectual playfulness; fantasizes; imagines ("I wonder what would happen if..."); manipulates ideas (i.e., changes, elaborates upon them); is often concerned with adapting, improving, and modifying institutions, objects, and systems.				
6. Displays a keen sense of humor and sees humor in situations that may not appear to be humorous to others.				

	1	2	3	4
7. Is unusually aware of his impulses and more open to the irrational in himself (freer expression of feminine interest for boys, greater than usual amount of independence for girls); shows emotional sensitivity.				
8. Is sensitive to beauty; attends to aesthetic characteristics of things.				
9. Is nonconforming; accepts disorder; is not interested in details; is individualistic; does not fear being different.				
10. Criticizes constructively; is unwilling to accept authoritarian pronouncements without critical examination.				
Column Total				
Weight	1	2	3	4
Weighted Column Total				
TOTAL				

PART IV: LEADERSHIP CHARACTERISTICS

	1	2	3	4
1. Carries responsibility well; can be counted on to do what he has promised and usually does it well.				
2. Is self confident with children his own age as well as adults; seems comfortable when asked to show his work to the class.				
3. Seems to be well liked by his classmates.				
4. Is cooperative with teacher and classmates; tends to avoid bickering and is generally easy to get along with.				
5. Can express himself well; has good verbal facility and is usually well understood.				
6. Adapts readily to new situations; is flexible in thought and action and does not seem disturbed when the normal routine is changed.				
7. Seems to enjoy being around other people; is sociable and prefers not to be alone.				
8. Tends to dominate others when they are around; generally directs the activity in which he is involved.				
9. Participates in most social activities connected with the school; can be counted on to be there if anyone is.				
10. Excels in athletic activities; is well coordinated and enjoys all sorts of athletic games.				
Column Total				
Weight	1	2	3	4
Weighted Column Total				
TOTAL				

Scale for Rating Behavioral Characteristics of Young Children

Dr. Bettie Chamberlain Atwater, Department of Education, State of Florida, has taken the Renzulli-Hartman Scale and adapted it for young children. Persons desiring to use this should contact Dr. Atwater for permission.

TEACHER OBSERVATION/RECOMMENDATION

Teacher-Observation and Recommendation Sheet

Step 1 - All teachers of the child's previous or present grade level may be asked to list a certain number of children in their classes in relationship to the ethnic/racial composition of the grade or school who may be the:

a. most creative children;

b. children with most leadership;

c. most scientifically or mathematically oriented children;

d. children who do the best critical thinking;

e. child who does the most detailed planning and can follow through with plans;

f. the decision makers;

g. the ones who take unlike ideas and create a new idea; and,

h. most able children who are the most inconsiderate of others in terms of behavior.

Step 2 - Together with principal, guidance staff, etc. compare lists to determine number of frequencies in which names appear and list these.

Step 3 - Consult achievement and intelligence data on students listed to this point to compare recommendations with past performances.

Step 4 - Make recommendations as necessary based on findings keeping in mind the racial composition and total number of children to be placed.

Teacher-Made Observational Checklist

1. Checklist Based on Characteristics and/or Traits Common to Gifted

Teachers of gifted and talented students in a given school or school system are encouraged to combine their efforts and develop their own observational checklists. Listing of characteristics and traits common to gifted students may be helpful in establishing checklist.

2. Checklist Based on Intellectual Behavior Contributing to Creativity

Teachers of gifted and talented students may give consideration to developing checklists based on pupil behaviors which contribute to creativity. Intellectual pupil behaviors which contribute to creativity include the following:

Thinking Behaviors (cognitive)[1]

- Fluent thinking - the ability to think the most by producing a number of questions, ideas, solutions or alternatives.
- Flexible thinking - the ability to take different approaches by producing a variety of questions, ideas, solutions or alternatives.
- Original thinking - the ability to think of novel or unique approaches by producing ideas, questions, solutions or alternatives that others do not think of.
- Elaborative thinking - the ability to embellish or expand upon ideas, questions, solutions or alternatives.

3. Checklist Based on Non-Intellectual Behaviors Contributing to Creativity

Teachers of gifted and talented students may give consideration to developing checklists based on pupil behaviors which contribute to creativity Non-intellectual pupil behaviors which contribute to creativity include the following:

Feeling Behaviors (affective)[1]

- Curiosity - the thirst to be inquisitive and want to know. To toy with an idea and try it on for size. Willingness to question, explore and follow an inclination just to see what might happen.
- Imagination - the power to wonder or feel intuitive about something that has never happened to the child. To visualize and build images of things or places never ventured into. The ability to dream in a world of fantasy.
- Complexity - the challenge to appreciate intricate problems or ideas. To seek order out of disorder and delve into gaps that exist between how things are and how things might be.
- Risk-taking - the courage to make a guess, be different or take a dare. To be able to function without structure and face failure, mistakes and criticism.

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[1]Frank E. Williams, Identifying and Measuring Creative Potential: A Total Creativity Program for Individualizing and Humanizing the Learning Process. Educational Technology Publication, Englewood Cliffs, 1972.

TEACHER CHECKLISTS

Checklist for Kindergarten*

Directions: Please place an X in the space beside each question which BEST describes the pupil.

	YES	NO
A. Language		
1. The pupil is able to read.	___	___
2. The pupil understands his relationship in such words as up-down, top-bottom, big-little, far-near.	___	___
B. Psychomotor Abilities		
1. The pupil exhibits coordination by being able to bounce a ball or tie his shoelaces.	___	___
2. The pupil can complete the missing parts of an incomplete familiar picture by drawing the parts in their proper perspective.	___	___
C. Mathematics		
1. The pupil can repeat five digits forward and reversed.	___	___
2. The pupil recognizes and understands the value of coins (penny, nickle, dime and quarter).	___	___
D. Creativity		
1. The pupil interprets stories or pictures in his own words.	___	___
2. The pupil displays curiosity by asking many questions or by other types of behavior.	___	___
E. General Characteristics		
1. The pupil readily adapts to new situations; he is flexible in thought and action; he seems undisturbed when the normal routine is changed.	___	___
2. The pupil seeks new tasks and activities.	___	___
3. The pupil tends to dominate others and generally direct the activity in which he is involved.	___	___

*Taken and adapted from materials prepared for Dade County, Florida Public Schools, Mr. James Miley, Coordinator for the Gifted.

Checklist for First Grade Pupils*

Directions: Please place an X in the space beside each question which BEST describes the pupil.

		YES	NO
1.	The pupil reads two years above grade level.	___	___
2.	The pupil recognizes the number and sequences of steps in a specified direction.	___	___
3.	The pupil forms sets and subsets.	___	___
4.	The pupil understands the concepts of place value.	___	___
5.	The pupil recognizes the properties of right angles.	___	___
6.	The pupil can create a short story from a familiar subject.	___	___
7.	The pupil interprets stories and pictures in his own words.	___	___
8.	The pupil questions critically.	___	___
9.	The pupil demonstrates flexibility in his thinking pattern and the ability to communicate to others.	___	___
10.	The pupil is self-confident with pupils his own age, and/or adults; seems comfortable when asked to show his work to class.	___	___
11.	The pupil has a well-developed vocabulary.	___	___
12.	The pupil has a vivid imagination and enjoys sharing his "stories" with others.	___	___

*Taken and adapted from materials prepared for Dade County, Florida Public Schools, Mr. James Miley, Coordinator for the Gifted.

Checklist for Grades 2-6*

Directions: Please place an X in the space beside each question which BEST describes the pupil.

	YES	NO
A. Learning Characteristics		
1. Has verbal behavior characterized by "richness" of expression, elaboration, and fluency.	___	___
2. Possesses a large storehouse of information about a variety of topics beyond the usual interests of youngsters his age.	___	___
3. Has a ready grasp of underlying principles and can quickly make valid generalizations about events, people or things; looks for similarities and differences.	___	___
4. Tries to understand complicated material by separating it into respective parts; reasons things out for himself; sees logical and common sense answers.	___	___
B. Motivational Characteristics		
1. Is easily bored with routine tasks.	___	___
2. Prefers to work independently; needs minimal direction from teachers.	___	___
3. Has tendency to organize people, things and situations.	___	___
4. Is positive and zealous in his beliefs.	___	___
C. Leadership Characteristics		
1. Carries responsibility well; follows through with tasks and usually does them well.	___	___
2. Seems respected by his classmates.	___	___
3. Is self-confident with children his own age as well as adults; seems comfortable when asked to show his work to the class.	___	___
4. Is shy, responding generally when called upon.	___	___
5. Is "bossy" with his peers.	___	___

*Taken and adapted from materials prepared for Dade County, Florida Public Schools, Mr. James Miley, Coordinator for the Gifted.

Checklist for Recommending Gifted and Creative Students*
(Middle Grades and Above)

Student's Name _____ School _____ Grade _____ Homeroom _____

Teacher's Name _____ School Term _____

To the Teachers:

We need your help. We're looking for children in your classroom who you feel might be more able than their test scores indicate. The following list of characteristics, while by no means all inclusive, represents traits found in gifted and creative children. If any student in your class is described by at least twelve (12) of the items on this list, you may want to watch him more carefully for possible inclusion in the gifted program. Those items which are most applicable should be double checked. Will you help us by responding to the following checklist for the top students in your class? Supporting information and comments should be written on the back of this form.

____ 1. Is an avid reader.

____ 2. Has received an award in science, art, literature.

____ 3. Has avid interest in science or literature.

____ 4. Very alert, rapid answers.

____ 5. Is outstanding in math.

____ 6. Has a wide range of interests.

____ 7. Is very secure emotionally.

____ 8. Is venturesome, anxious to do new things.

____ 9. Tends to dominate peers or situations.

____10. Readily makes money on various projects or activities--is an entrepreneur.

____11. Individualistic--likes to work by self.

____12. Is sensitive to feelings of others--or to situations.

____13. Has confidence in self.

____14. Needs little outside control--disciplines self.

*San Francisco Unified School District Programs for Mentally Gifted Minors, William B. Cummings, Supervisor.

___15. Adept at visual art expression.

___16. Resourceful--can solve problems by ingenious methods.

___17. Creative in thoughts, new ideas, seeing associations, innovations, etc. (not artistically).

___18. Body or facial gestures very expressive.

___19. Impatient--quick to anger or anxious to complete a task.

___20. Great desire to excel even to the point of cheating.

___21. Colorful verbal expressions.

___22. Tells very imaginative stories.

___23. Frequently interrupts others when they are talking.

___24. Frank in appraisal of adults.

___25. Has mature sense of humor (puns, associations, etc.).

___26. Is inquisitive.

___27. Takes a close look at things.

___28. Is eager to tell others about discoveries.

___29. Can show relationships among apparently unrelated ideas.

___30. Shows excitement in voice about discoveries.

___31. Has a tendency to lose awareness of time.

Characteristics of Talented Pupils-Checklist*
(Can be used at any grade level)

School_____ Teacher_____

Directions: Place an X in the space beside each question which best describes the pupil.

Pupil's Name_____ Date_____

		YES	NO
1.	Displays a great deal of curiosity about many things.	___	___
2.	Generates ideas or solutions to problems and questions.	___	___
3.	Sees many aspects of one thing; fantasizes, imagines, manipulates ideas, elaborates.	___	___
4.	Applies ideas.	___	___
5.	Is a high risk taker; is adventurous and speculative.	___	___
6.	Displays a keen sense of humor.	___	___
7.	Is sensitive to beauty; attends to aesthetic characteristics.	___	___
8.	Predicts from present ideas.	___	___
9.	Demonstrates unusual ability in painting/drawing.	___	___
10.	Exhibits unusual ability in sculpturing or clay modeling.	___	___
11.	Shows unusual ability in handicrafts.	___	___
12.	Provides evidences of unusual ability in use of tools.	___	___
13.	Shows unusual ability in instrumental music.	___	___
14.	Demonstrates unusual ability in vocal music.	___	___
15.	Indicates special interest in music appreciation.	___	___
16.	Displays ability in role playing and drama.	___	___
17.	Demonstrates ability to dramatize stories.	___	___
18.	Shows ability in oral expression.	___	___
19.	Demonstrates unusual ability in written expression: creating stories, plays, etc.	___	___
20.	Shows evidence of independent reading for information and pleasure.	___	___
21.	Demonstrates ability in dancing; toe, tap, creative.	___	___
22.	Displays mechanical interest and unusual ability.	___	___
23.	Shows unusual skill and coordination in his gross muscular movements such as ball playing, running.	___	___

*Taken and adapted from materials prepared for Dade County, Florida Public Schools. Mr. James Miley, Coordinator for the Gifted.

Student Evaluation Sheet*

Name: _____ School: _____ Date: _____

Teacher: _____ Subject: _____ Grade: _____

	EVALUATION		
	High	Average	Low
I. ATTITUDES			
A. Respects Self			
1. Recognizes strengths			
2. Recognizes weaknesses			
3. Level of self-image			
B. Respects Others			
1. Recognizes strengths			
2. Accepts weaknesses			
3. Involvement			
C. Sense of Responsibility			
1. Standard of motivation			
2. Standard of achievement			
3. Standard of excellence			
4. Standard of contribution			
D. Sense of Values			
1. Personal values			
2. Group values			
E. Respects Work and Learning			
1. Works independently			
2. Works with a group			
3. Asks good questions			
4. Quests to discover truth			
5. Solves problems for himself			
6. Perseveres			
7. Thinks logically			
8. Communicates clearly			
9. Acquires necessary skills			
II. ACADEMIC STATUS			
A. Content			
1. Acquires factual knowledge			
2. Understands concepts			
3. Able to evaluate			
B. Skills			
1. Has above average vocabulary			
2. Uses research skills			
3. Writes acceptable paragraphs			
4. Comprehends problems			
5. Can hypothesize			
6. Can construct a working plan			
III. CREATIVITY			
A. Recognizes Personal Talents			
1. Sees relationships			
2. Uses materials and ideas in original ways			
3. Applies talent or talents			
B. Values Creativity in Others			

*Prepared by Mrs. Betty Stovall, Director, Talent Development, Charlotte-Mecklenburg Schools.

Identification of Culturally Disadvantaged Underachieving Mentally Gifted Minors

Suggested by the State Consultants
In the Education of the Mentally Gifted[1]

1. Early evidence of:

___ School related learning
___ Maturation
___ Active and persistent exploration of environment
___ Imitation of adult behavior
___ Questioning of established ways of doing things or of assignments and directions

2. Unusually resourceful in coping with:

2.1 Responsibilities

___ Home
___ School
___ Work
___ Community
___ Other

2.2 Opportunities

___ Access to resources
___ Free and/or unstructured time
___ New environments
___ New experiences
___ Other

2.3 Deprivations

___ Economic
___ Social
___ Expression, information, planning, communication, exploration
___ Cultural
___ Educational

2.4 Problems, Frustrations, and Obstacles

___ School
___ Home
___ Social
___ Other

2.5 Lack of Structure and Direction

___ No closure
___ Poor or irrational organiation of:

___ Time
___ Work tasks
___ Learning experiences
___ Social experiences

2.6 Overly structured settings

___ With no or few opportunities to explore alternatives
___ With overemphasis on rigid expectations and with rigid role performance
___ With no or few opportunities to do things in new ways

3. Playful with:

___ Materials
___ People (interpersonal relations)
___ Ideas
___ Other things

---

[1]Obtained through Dr. Paul Plowman, California State Department of Education.

4. Sense of humor (Describe)

5. Products (List)

6. Achievements (List)

7. Skills (List)

8. Scores on intellectual ability tests:

___ Scores compared with norms for culturally disadvantaged children
___ Nonverbal score as compared with verbal score

9. Intelligence/achievement scattergram profiles and aptitude test scores

10. Ratings on maturation profiles; e.g. Gesell

Characteristics of Able Disadvantaged Pupils*

Name_____ Date_____

School_____ Grade_____ Age_____

Able disadvantaged pupils evidence superior ability in one or more of the five areas listed below. No pupil is expected to demonstrate ability in all areas, but an analysis of strengths may indicate potential. It is important to note that these characteristics can be evidenced in both positive and negative ways and either manifestation is an indicator of strength. Examples of negative indicators have been enclosed in parenthesis.

The classroom teacher who works daily with pupils is best qualified to make these observations. Place an X on the line beside each statement which BEST describes this pupil. If the behavior has not been observed, leave the line blank.

A. LEARNING	YES	NO
. Demonstrates verbal proficiency in small group problem solving tasks.	___	___
. Has unusually advanced vocabulary for age or grade level.	___	___
. Has verbal behavior characterized by "richness" of expression, imagery, elaboration, and fluency in any language. (Sometimes rambles on and on.)	___	___
. Possesses a large storehouse of information about a variety of topics beyond the usual interests of age peers.	___	___
. Has rapid insight into cause-effect relationships; tries to discover the how and why of things; asks many provocative questions; wants to know what makes things or people "tick". (Can be an annoyance in persisting to ask questions.)	___	___
. Has a ready grasp of underlying principles; can quickly make valid generalizations about events, people or things. (Sometimes skeptical.)	___	___
. Looks for similarities and differences.	___	___
. Reads independently; does not avoid difficult material; may show a preference for biography, autobiography, encyclopedia, atlases, travel, folk tales, poetry, science, history and drama.	___	___
. Tries to understand complicated material by separating it into its respective parts; reasons things out and sees logical and common sense answers.	___	___
. Catches on quickly; retains and uses new ideas and information.	___	___
. Has a facility for learning English if bilingual.	___	___
. Is a keen and alert observer; usually "sees more" or "gets more" out of a story, film, etc. than others.	___	___

*Obtained through Allyn Arnold, Director, Los Angeles Unified School District, Mentally Gifted Minors, and Al Hatch.

	YES	NO
B. MOTIVATION		
. Evidences power of concentration.	___	___
. Prefers to work independently with minimal direction from teachers. (Resists directions.)	___	___
. Has tendency to organize people, things and situations. (Resists opinions of others; wants own way.)	___	___
. Is concerned with right and wrong, good and bad. (Makes decisions with little tolerance for shades of "grey.")	___	___
. Takes advantage of opportunities to learn and enjoys challenge.	___	___
. Is self-critical and strives for perfection. (Sometimes critical of others and not self.)	___	___
. Often is self-assertive. (Can be stubbornly set in ideas.)	___	___
. Requires little drill to grasp concepts; seeks other than routine tasks. (Needs to know reasons for activity.)	___	___
. Becomes absorbed and involved in certain topics or problems.	___	___
. Is persistent in task completion. (Sometimes unwilling to change tasks.)	___	___
. Likes structure and order but not static procedures. (Is frustrated by lack of progress.)	___	___
. Is motivated by sports, music, and concrete subjects.	___	___
C. LEADERSHIP		
. Accepts and carries responsibility; follows through with tasks and usually does them well.	___	___
. Is self confident with age peers; is usually well understood by them. (Can be self assertive and dominant.)	___	___
. Seems well liked by classmates and is looked upon as a leader. (Needs peer approval and acceptance.)	___	___
. Shows developing understanding in how to relate to teachers and classmates. (Sometimes has a rebellious attitude.)	___	___
. Tends to dominate others and generally organizes and directs activities when involved in a group.	___	___
. Adapts readily to new situations; is flexible in thought and actions and is not disturbed when normal routine is changed.	___	___
. Seems to enjoy being with other people; is sociable and prefers not to be alone. (Sometimes is a loner.)	___	___
. Takes initiative and shows independence of action.	___	___
. Is a social leader on playground and off campus.	___	___
D. CREATIVITY		
. Displays intellectual playfulness; fantasizes; imagines; manipulates ideas by elaboration or modification.	___	___
. Is a high risk taker; is adventurous and speculative. (Has different criteria for success.)	___	___

	YES	NO
. Displays a keen sense of humor reflective of own cultural background.	___	___
. Is individualistic; does not fear being different. (Departs from peer norm in action and behavior.)	___	___
. Predicts from present information.	___	___
. Displays a curiosity about many things; has many hobbies.	___	___
. Generates a large number of ideas or solutions to problems and questions.	___	___
. Responds emotionally to stories, events, and needs of others.	___	___
. Shows ability in oral expression.	___	___
. Demonstrates exceptional ability in written expression; creates stories, plays, etc.	___	___
. Is sensitive to color, design, arrangement and other qualities showing artistic appreciation and understanding.	___	___
. Is sensitive to melody, rhythm, form, tonal coloring, mood and other qualities showing music appreciation.	___	___
. Demonstrates exceptional ability in one of the fine arts (underline area of strength): dancing, painting/drawing, sculpturing/clay modeling, instrumental or vocal music, role playing/drama	___	___
. Demonstrates unusual ability in one of the practical arts (underline area of strength): handicrafts, wood, metal, print, design, mechanics.	___	___
. Demonstrates exceptional skill and ability in physical coordination activities.	___	___
. Shows interest in unconventional careers.	___	___
. Improvises with commonplace materials.	___	___
E. ADAPTABILITY		
. Handles outside responsibilities and meets school demands.	___	___
. Learns through experience and is flexible and resourceful in solving day to day problems.	___	___
. Deals effectively with deprivations, problems, frustrations or obstacles caused by the complexities of living conditions.	___	___
. Overcomes lack of environmental structure and direction. (Needs emotional support and sympathetic attitude.)	___	___
. Displays high degree of social reasoning and/or behavior and shows ability to discriminate.	___	___
. Uses limited resources to make meaningful products.	___	___
. Displays maturity of judgment and reasoning beyond own age level.	___	___
. Is knowledgeable about things of which others are unaware.	___	___
. Can transfer learning from one situation to another.	___	___

Barclay Classroom Climate Inventory
(Grades 3-6)

"Purports to measure personality dimensions, learning characteristics, and social interaction skills of individual students and involves self reports, peer nominations and teacher ratings."

James R. Barclay, University of Kentucky, Educational Skills Development Inc., Lexington, Kentucky 40508

PEER NOMINATIONS

Student-Peer Nomination Checklist

Teachers of Gifted and Talented students may give consideration to utilizing student peer nomination checklist in which students list specific data relative to their friends (those who are closest friends, those with whom they walk home or ride the bus, those who are seen only at school).

Students may be asked to utilize their knowledge of their "friends" to help them list the:

a. most creative and original classmate(s), or

b. classmate(s) with most leadership, or

c. most scientifically oriented classmate(s), or

d. classmate(s) who does the best critical thinking, or

e. etc.

Note: Statements may have to be modified and/or adapted to the level of students being served.

Student's Classroom Inventory*

You have talents. You are aware of some of the talents which your classmates have and some may be hidden. After you have written the names of each of your classmates in the first column, please write in the second column the talent which you feel each person has. If any of your classmates have a talent which is unknown to you or one which cannot be determined by you, place a check (✓) beside the name of that person in the third column.

Name of Your Classmates	Talent He or She Has	Hidden Talent
1.		
2.		
etc.		

*Through the Courtesy of: Mrs. Betty Stovall, Director, Talent Development, Charlotte-Mecklenburg Schools, Charlotte, North Carolina.

Student Individual Talent Inventory

You have talents. Some of them your friends or parents or teacher knows. Some only you know. Please list all talents you have and check whether others know it or not.

Name:

Talent I Know I Have	Other People Know It	No One Else Knows It
1. 2. 3. etc.		

Barclay Classroom Climate Inventory

Already listed under TEACHER CHECKLISTS

Alpha Simulation Game

This can be obtained from Ms. Victoria Raider, Leschi School in Seattle, Washington. Dr. Renzulli has worked with her in the development of this peer nomination form.

Syracuse Scale of Social Relationships

This peer nomination instrument was developed by Eric Garden and George Thompson and was published by Harcourt, Brace and Jovanovich.

PARENT NOMINATION FORMS

FOR SCHOOL USE ONLY

TR _____
TI _____

Sample Parent Nomination Form
at the Early Childhood Level

Name of Student _____ Age _____

Address _____ School _____ Grade _____

Parent's Name _____

Instructions: In relationship to the typical child in your neighborhood, please circle a number for each item which best describes your child:
5 - has this trait to a high degree; 4 - has this trait more than the typical child; 3 - compares with the typical child; 2 - has this trait less than the typical child; 1 - lacks this trait.

1.	Has advanced vocabulary, expresses himself or herself well	5	4	3	2	1
2.	Thinks quickly	5	4	3	2	1
3.	Recalls facts easily	5	4	3	2	1
4.	Wants to know how things work	5	4	3	2	1
5.	Is reading (before he started kindergarten)	5	4	3	2	1
6.	Puts unrelated ideas together in new and different ways	5	4	3	2	1
7.	Becomes bored easily	5	4	3	2	1
8.	Asks reasons why--questions almost everything	5	4	3	2	1
9.	Likes "grown-up" things and to be with older people	5	4	3	2	1
10.	Has a great deal of curiosity	5	4	3	2	1
11.	Is adventurous	5	4	3	2	1
12.	Has a good sense of humor	5	4	3	2	1
13.	Is impulsive, acts before he thinks	5	4	3	2	1
14.	Tends to dominate others if given the chance	5	4	3	2	1
15.	Is persistent, sticks to a task	5	4	3	2	1
16.	Has good physical coordination and body control	5	4	3	2	1
17.	Is independent and self sufficient in looking after himself	5	4	3	2	1
18.	Is aware of his surroundings and what is going on around him	5	4	3	2	1

19.	Has a long attention span	5	4	3	2	
20.	Wanted to do things for himself early--example dressing and feeding himself	5	4	3	2	1

(An LEA could substitute "yes" and "no" rather than a continuum. This form could be used by parents to help select GT students entering kindergarten or grade one. The teacher rating--TR in the box at the top--could fill out the form near the end of the year. Information collected from both, when compared to standardized test instruments--TI in the box--could be used by an LEA to validate the form.) Developed by staffs in the North Carolina Division for Exceptional Children, Gifted and Talented Section and Division of Research.

Rockford, Illinois Parent Questionnaire for Kindergarten Children[1]

Parent Information Sheet

In an attempt to make the school experience a good one for each youngster, we must constantly re-evaluate the methods by which we plan the educational programs. In a long-range study we are trying to determine how accurately parents can assess their child's potential. You can help us in this project by providing the following information on your kindergarten child.

CHILD'S_____ DATE OF BIRTH_____

PARENT'S NAME_____ HOME PHONE_____

ADDRESS_____ SCHOOL_____

_____

_____

BROTHERS AND SISTERS:

NAMES	BIRTHDATES
_____	_____
_____	_____
_____	_____
_____	_____

Some behaviors a child may show:

1. Learns easily and rapidly.
2. Remembers easily what he has learned.
3. Shows great curiosity about his surroundings.
4. Seeks his own answers and solutions to problems.
5. Develops earlier than others his age.
6. Tends to direct the activities of playmates his own age.
7. Usually keeps himself busy with many different interests or one sustained interest.

A youngster who displays some or all of the above characteristics may be intellectually gifted. As you think about your kindergarten child in this light, would you consider your child to be intellectually gifted?

Yes_____ No_____

This project will involve, at a later date, an individual assessment of your child to provide us the necessary results for future program planning. Would you please indicate your permission for your child's involvement in this project by signing below.

_____ _____

Date Signature (Parent or Guardian)

[1]Obtained through Thomas E. Ciha, Ruth Harris and Charlotte Hoffman, Rockford Public Schools. Permission to use this questionnaire must be obtained from the Rockford Public Schools, 121 South Stanley Street, Rockford, Illinois 61102.

Appendix C

SAMPLE STUDENT PROFILES

Composite Student Evaluation Profile*

This form has been developed to compile objective and subjective data on students in deciding placement into gifted and talented classes. Data is converted into a stanine figure.

Roman numeral I is a composite chart of data. Within the chart, numbers are translated into a 1 to 9 stanine.

Block 1 - the IQ stanine
Block 2 - the achievement stanine, paragraph meaning
Block 3 - the achievement stanine, arithmetic concepts
Block 4 - average of all grades for the past two years (C=5, B=7, A=9)
Block 5 - III Motivation: #1=1; #2=3; #3=5; #4=7; #5=9
Block 6 - III Work Attitude: #1=1; #2=3; #3=5; #4=7; #5=9
Block 7 - III Curiosity: #1=1; #2=3; #3=5; #4=7; #5=9
Block 8 - III Creativity: #1=1; #2=3; #3=5; #4=7; #5=9
Block 9 - IV Skills and Maturity: Total the circled numbers by topics. Translate into a stanine according to the following chart.

Totals	Stanine	Totals	Stanine
121-135	9	61-75	5
106-120	8	46-60	4
91-105	7	31-45	3
76- 90	6	0-30	2

Block 10 - Add all stanines in blocks 1 through 9 and place total number in here.
Block 11 - Divide the total number in block 10 by 9 and place the composite stanine here. Local school placement committees will determine the cutoff stanine.

The cutoff stanine (block 11) is compared with V Teacher's Evaluation and VI Past Record in G & T Classes (if applicable). The last bit of data (VII) may determine the type of program.

DATE_____

SCHOOL_____ NAME OF STUDENT_____

GRADE_____ TEACHER_____ SUBJECT_____

HOME ADDRESS_____ HOME TELEPHONE_____

PARENTS' INITIALS_____

SCHOOL ASSIGNED FOR NEXT YEAR (19-- 19--)_____

I.

1	2	3	4	5	6	7	8	9	10	11

---

*Developed by Mrs. Betty Stovall, Director, Talent Development Program, Charlotte-Mecklenburg Schools, Charlotte, North Carolina.

II. TEST RESULTS

Lorge-Thorndike or similar instrument (Stanine Score)_____
(Elementary Grades)

DAT (VR + NA) or similar instrument (Stanine Score)_____
(Secondary Grades)

Stanford Achievement Test or similar instrument (Stanine Scores)
Paragraph Meaning_____ Arithmetic Concepts_____
(Latest test given)

Average of all grades for Past Two Years----------_____

III. PLEASE DESCRIBE THIS STUDENT BY ENCIRCLING THE MOST ACCURATE DESCRIPTION FOR A-D (If, after encircling the description, you feel it underestimates the pupil, place a + after the encircled number.) These items will be translated into stanines.

A. Motivation	B. Work Attitude	C. Curiosity	D. Creativity
1. Must be prodded to get work done	1. Does not like to tackle a new idea	1. Not curious enough to get all the facts	1. Never has a new idea
2. Requires occasional reminders	2. Has difficulty comprehending class procedures	2. Accepts facts and situations as presented	2. Tends to use only familiar ideas
3. Usually completes work promptly	3. Applies general classroom methods capably	3. Asks some questions for better understanding	3. Sometimes has original ideas
4. Generally does more than is required	4. Occasionally employs a new approach	4. Demands reasons; expresses doubts; wants additional clarification	4. Can be depended on to have good suggestions
5. Contributes creatively and constructively on a high level	5. Finds many ways to solve problems	5. Investigates further and arrives at conclusions	5. Sees new relationships; uses materials in unusual ways

IV. Skills and Maturity

PLEASE ENCIRCLE THE NUMBER THAT MOST ACCURATELY DESCRIBES THIS STUDENT'S LEVEL IN EACH OF THE FOLLOWING AREAS: (Consider 9 to be Superior, 5 to be Average, and 1 to be Poor)

FILL IN COMPLETELY

Reading	9	8	7	6	5	4	3	2	1
Paragraph Writing	9	8	7	6	5	4	3	2	1
Grammar	9	8	7	6	5	4	3	2	1
Spelling	9	8	7	6	5	4	3	2	1
Punctuation	9	8	7	6	5	4	3	2	1
Arithmetic Application	9	8	7	6	5	4	3	2	1
Penmanship	9	8	7	6	5	4	3	2	1
Oral Reporting	9	8	7	6	5	4	3	2	1
Critical Judgment	9	8	7	6	5	4	3	2	1
Organization Proficiency	9	8	7	6	5	4	3	2	1
Following Directions	9	8	7	6	5	4	3	2	1
Research Ability	9	8	7	6	5	4	3	2	1
Emotional Maturity	9	8	7	6	5	4	3	2	1
Physical Maturity	9	8	7	6	5	4	3	2	1
Social Maturity	9	8	7	6	5	4	3	2	1

Total Score_____

V. TEACHER'S EVALUATION: _____

_____

_____

_____

Do you recommend this student for Gifted and Talented classes? Yes__ No__

VI. PAST RECORD OF ENROLLMENT IN G & T CLASSES

DATE	GRADE	SCHOOL

DATE	GRADE	SCHOOL

VII. Please check the areas in which the student shows unusual interest or talent:

Art	___	Language Arts	___	Music	___	Science	___
Dance	___	Language	___	Physical Education	___	Others	___
Drama	___	Mathematics	___	Social Studies	___	_____	

Composite Student Profile

(Using the matrix for the category of child being evaluated for possible placement, obtain data from the areas listed below.)

Date _____

Name of Student _____ School _____

Grade _____ Teacher _____

Parents' Name _____ Telephone _____

Home Address _____

1. Instruments

Name	Date	Score or Stanine

2. Performance

   a. Grade (GPA) _____

   b. Demonstration of Skills (explain)

   c. Checklists/Scales

Name	Date	Score or Stanine

3. Nominations

	Name	Title	Comments
a.			
b.			
c.			

4. Developmental Data

	Type	Who	Comments
a.			
b.			
c.			

5. Additional Comments (information regarding motivation, little known information, anecdotes, things that make this child special and set him apart):

(Developed by the staff in the North Carolina Division for Exceptional Children, Gifted and Talented Section)

Appendix D

PROCEDURES FOR REFERRAL, SCREENING, ASSESSMENT PLACEMENT FOR GIFTED AND TALENTED CHILDREN[1]

Each administrative unit shall develop procedures for referral, screening, assessment and placement of their gifted and talented children. These procedures must be in accordance with the Policies and Regulations adopted by the State Board of Education, in keeping with state law and follow due process procedure. The local procedures shall be adopted by each local board of education and should address themselves to the steps listed below.

Variations from these procedures may occur when sufficient evidence exists to validate that children can be properly identified and placed within the intent of the procedures. A written plan detailing the variations with reasons listed shall be submitted to the Director, Division for Exceptional Children, for approval prior to their implementation.

A. Referral

1. When a teacher recognizes that a child's educational needs are not being met, the teacher will provide in writing an assessment of the pupil's strengths and weaknesses. This will be given to the principal of the school who then may contact the chairman (director or coordinator) of programs for exceptional children. This step may also be initiated by the parent, guardian, surrogate parent, principal or bona fide agency and follow the same procedure.

2. The pupil will be observed in his regular classes by at least one of the following: the principal, the chairman of programs for exceptional children, a teacher of exceptional children. If the child is observed, a written description of the child's behavior will be completed.

3. The regular teacher, the local chairman or his designee, and the principal will confer to determine whether the regular program can be adapted to meet the needs of the child, whether transfer to another regular teacher is advisable, or whether there is the need for special service or placement. If a special program or service is desired, reasons should be given in writing and referral made to the School-based Committee.

B. School-based Committee

1. A School-based, biracial[2] Committee will be selected from among the following and be responsible for initiating screening and

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[1]Excerpted from the procedures for all "children with special needs" adopted by the North Carolina State Board of Education, July, 1975, and in accordance with the Equal Educational Opportunities Act.

[2]At least one member of the committee shall be of the same race as the child.

assessment of children referred to it:

. the principal (or his designee) as chairman[3]
. the teacher referring the child[3]
. the chairman for exceptional children (or his designee)[3]

. a resource teacher or another teacher of exceptional children teaching in the areas of exceptionality discussed
. a psychologist
. a guidance counselor
. a social worker
. a speech, language and hearing specialist
. a physician or school nurse

2. If, in the School-based Committee's judgment, additional information needs to be obtained on the child, the parent or guardian must be informed of the need, receive an explanation, and be requested to give his approval in writing prior to any further action being taken.

3. The following information must be gathered on each child who needs special attention other than that available in a full-time regular classroom with his regular classroom teacher. This information will be presented to the School-based Committee.

   a. Initial referral from teacher, principal, parent, surrogate parent, or bona fide agency.

   b. Local chairman and/or principal's observation of the child if needed.

   c. Recommendations following the joint conference between teacher, chairman and principal requesting special services.

   d. Comprehensive Screening and Assessment - The assessment of an exceptional child will be multi-factored and multi-sourced, in order to provide a comprehensive view of the child from the perspective of the school, home and community. Screening and assessment will be the responsibility of the School-based Committee and, where appropriate, other professionals qualified to administer and determine the results of certain technical (clinical) tests which are designed to screen or assess a pupil's strengths and weaknesses in specific areas of learning. The assessment will include some or all of the following information.

      (1) Education Functioning:

         --Screening - The child's existing school records including work samples shall be collected and analyzed.

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[3]To be on each committee.

--Assessment - An assessment shall be made of the child's educational functioning in relation to the educational program of the school. The results of this assessment should be expressed in terms of both the child's strengths and weaknesses. This assessment should be comprehensive, using a full range of available instrumentation and observations, including diagnostic tests and other appropriate formal measurements.

Any "classification" of students for educational purposes should consist of a description of the types of educational programs and services needed by each child to learn to the fullest extent possible in the school setting, rather than just categorizing the child by some diagnostic label which is unrelated to educational programming.

(2) Psychological Evaluation

If an individual psychological is given, it shall include, but not be limited to, the assessment of intellectual functioning and social and personal behavior, adaptive behavior and psychomotor development. Such an evaluation shall be performed by a qualified examiner who is either certified by the State Department of Public Instruction or licensed under the North Carolina Psychological Licensing Act. Social-personal behavior and academic performance shall be measured by test instruments deemed appropriate by the examiner.

In categories requiring a psychological, a child shall not be placed, even temporarily, prior to this assessment. Due to the time involved in obtaining psychological services and the immediate special needs of some children, the following option may be considered.

> The resource teacher may serve as a consultant to the regular teacher and make specific program recommendations. The regular teacher works with the child. This constitutes neither special placement nor labeling of the child.

(3) Other Information

Measures of identification other than tests, such as scales and checklists distributed through the Division for Exceptional Children, may also be used to identify gifted and talented children.

(4) Vision and Hearing

Vision and hearing screening can be conducted by school health nurses and other appropriate personnel. Speech,

language and hearing specialists may conduct hearing screening. Medical evaluations of these functions should be conducted by a physician.

(5) Medical

Medical screening may be conducted by the school health nurse. Medical evaluations will be conducted by a physician. Medical problems revealed through screening requiring treatment or additional diagnosis should be referred to a physician.

(6) Speech and Language Development

The following aspects of speech and language should be evaluated: articulation, fluency, voice and language (syntax, morphology, semantics).

e. Children with Linguistic or Cultural Differences

When assessment procedures and instruments are selected for use in a local district, adjustments shall be made where necessary to account for the sociocultural and linguistic home environments of pupils. The appropriateness of such procedures and instruments shall be considered in administering tests and evaluating the results.

f. Written Educational Recommendations

The School-based Committee is responsible for providing in writing to the receiving teacher general recommendations including strengths and weaknesses of the child based on the data collected. These recommendations should be understood by the teacher receiving the child. Specific strategies for the educational program of the child will be developed by the special teacher and will speak to remediation, enrichment and/or curriculum planning. The written program and committee recommendations will be used in the re-evaluation process in determining continued or changed placement.

C. Re-Evaluation

Each year the School-based Committee should review the placement of all children in special educational programs in their school.

Based on this review, the Committee will make its recommendation to the Administrative Placement Committee concerning the future placement of the child. The parent or guardian must be notified of any change in placement following due process procedures.

After a period of special placement, not in excess of three years, an indepth re-evaluation is strongly recommended. This indepth evaluation will be different for each categorical placement and should be designed to provide comprehensive information deemed necessary by Administrative Placement Committee.

D. Placement Procedures - Involuntary

It is recognized that, in the most unusual circumstances, it may become necessary to assign a child (who has had the appropriate psychological and physical evaluation) to a special program without parental consent. This is allowed by Chapter 1293 of the Session Laws (1974). However, it is recommended by the State Board of Education that such assignment only be made as a last resort, after other remedial measures to deal with the child's special needs have been attempted within the regular school program. Further, it shall be policy that such an assignment shall be only made upon recommendation of the Administrative Placement Committee and approval of the local superintendent. The parent is entitled to appeal this action following due process procedures.

E. Recommended and Required Screening and Evaluation Before Placement

Programs for Gifted and Talented Children

1. *Required* Screening or Evaluation Before Placement

   a. Educational evaluation [information gathered routinely on all school children--authors]
   b. Other information - See "Suggestions for Identifying Gifted and Talented Students" issued by the Division for Exceptional Children, State Department of Public Instruction, and An Identification Model published under the Title V Project

2. *Recommended* Screening or Evaluation Before Placement

   a. Psychological evaluation
   b. Vision and hearing
   c. Medical screening
   d. Speech and language development

F. Administrative Placement Committee

1. The membership of an Administrative Placement Committee should be selected from the following.

   . Chairman, Programs for the Gifted/Talented
   . Chairman of the appropriate School-based Committee
   . Superintendent or his designee
   . General Supervisor
   . School Psychologist(s)
   . Other appropriate personnel

   The Committee should have in membership a person of the same race as the child being considered for placement.

   The School-based Committee recommends placement to the Administrative Placement Committee.

2. The Administrative Placement Committee will review data on each child presented from the School-based Committee's report and recommendations. The Administrative Placement Committee then renders a decision for placement of the child. All special placement is made by the Administrative Placement Committee.

3. Once the Administrative Placement Committee has rendered a decision on the placement or services, one of the following procedures should be followed:

   a. A conference is held with the parent or guardian and the following is completed.

      1. The parent or guardian is notified of the Committee's decision.

      2. A written statement is drafted indicating that a conference has been held, that the parent is apprised of the Committee's decision, and the parent is supplied a description of the program or service to be provided. The parent should be informed that if his child does not perform according to the criteria developed for the particular program, a review will become necessary to re-evaluate placement.

      3. The parent is told that he has the right to review the data, to challenge the data and to provide additional data that could have some effect on the placement of the child.

      4. The parent is told about other agencies that can provide free evaluations if he is unable to pay for additional desired evaluations.

      5. The parent is furnished a copy of the appeal procedure and is apprised of his right to appeal the decision.

   b. A letter is sent to the parent or guardian including the following:

      1. The Committee's decision concerning placement.

      2. A written description of the program or service to be provided including the possibility of placement review.

      3. A description of the rights of the parent including the right to review the data, challenge the data and to provide additional data that could effect the placement of the child.

      4. A list of agencies that could provide free evaluations if desired.

5. A copy of the appeal procedures.

The letter is sent by certified or registered mail with returned receipt requested, unless waived by the parent in writing.

(For copies of possible types of forms to be used to implement these procedures, contact your State consultant for Gifted Programs.)

Characteristics of Creatively Gifted Children

by

Gary A. Davis and Sylvia Rimm
University of Wisconsin

ABSTRACT

Personality and biographical traits of creative individuals are summarized and some assessment instruments are reviewed. Special attention is given to GIFT, an instrument for identifying creatively talented elementary school children.

The creative personality is alive and well. Indeed, the concept is thriving. More and more, educators and other professionals are attending to personological or noncognitive contributors to creativeness, with correspondingly less emphasis on the "cognitive" capabilities. By personological traits we primarily refer to the individual's personality, including his/her attitudes, interests, values, motivations, awarenesses, habits and other "dispositions," which along with some biographical features lead very regularly to innovative thinking and doing. Cognitive abilities are those familiar concepts of associational fluency, flexibility, originality, elaboration and even IQ which traditionally have earned the spotlight as determiners of creative productivity.

Logically, both noncognitive and cognitive traits are essential for creative behavior. This report will briefly summarize the personological side and then review some instruments for its assessment. A little extra space will be devoted to the second author's GIFT, an elementary school level instrument which both confirms the tremendous importance of noncognitive creative traits even with young children, and provides a reasonably good vehicle for the identification of creatively gifted children.

The Creative Personality

A brief portrait of the creative person would run something like this: (1) He or she is high in self-confidence and independence and is more willing than the average to take a creative risk. The innovative person must be willing to differ from the crowd--to stand out, make waves, break with tradition, think for him/herself, and to expose him/herself to potential failure, criticism or perhaps embarassment.

(2) The creative individual typically is quite conscious of her or his tendencies toward nonconformity and creativeness. When asked (e.g., on a questionnaire) "Are you definitely uncreative, mostly uncreative, average, above average, or super creative?" he or she will accurately check the high end of the scale. S/he's in the habit of thinking creatively and usually knows it.

(3) An unusually high energy level, spontaneity, adventurousness and "sensation seeking" tendency also are common--perhaps absolutely essential--among the highly creative (Davis, Peterson, & Farley, 1973). It may be trivial to propose that a creatively productive person is energetic, since if s/he were not energetic s/he would not be productive. Nonetheless, there is a clear eagerness among creatives to try new activities (e.g., to be hypnotized, learn to fly, climb a mountain, explore a new city) and to plunge with enthusiasm into problems which fire the interests and challenge the wits. As a child, this creative energy vented itself in constructing toys, games, handicrafts, and so on. The creative person thus will have a history of creative hobbies and unusual activities, for example, collections of dead horse bones or spider webs, and normally will show an extraordinarily wide range of interests.

(4) A related trait is the characteristic preference for complexity and attraction to the mysterious. The creative individual usually prefers asymmetrical, imbalanced types of drawings (Barron, 1969), even during periods when artistic tastes swing to simple colors and symmetrical forms. There also is an interesting tendency for him or her to be a stronger believers in spirits, ESP and other psychical and mystical happenings. Some highly creative persons claim psychical experiences and paranormal capabilities--Mark Twain and Orson Welles would be two cases.

(5) A childlike playfulness and good sense of humor reasonably contribute to creativeness. The creative person often is willing to turn a problem upside down or backwards, to play with fanciful possibilities and even to climb right into the problem itself (Gordon, 1961). It's been said that the creative adult is a perpetual child; the tragedy is that most of us grow up (Fabun, 1968). (6) More serious traits of idealism and reflectiveness also are common. More than the average, the creative person ponders his role in the universe and the significance of his/her being. His/her idealism and individuality may surface in anti-establishment cynicism or in dropping out of high school or college.

(7) Artistic and aesthetic interests also are fairly strong. While the creative person need not be an accomplished actor, artist or writer, a high interest is common and some amount of artistic, musical, or dramatic experience is not unusual.

There are more traits, habits, interests and biographical facts which follow the creative individual, but this brief list will serve as a general summary.

Personality-based Creativity Tests: High School and Adult

The notion of a creative personality is not new. Hirsh (1931) and Rossman (1931) compiled creative traits not greatly different from current conceptions. In the past decade however, the mushrooming interest has led to the construction and validation of a number of personality-based instruments.

With high school students, the Biographical Inventory-Creativity (125 items; Schaefer, 1970) produces (a) creative art and (b) creative writing subscores for girls, and (c) creative math-science and (d) creative art-writing subscores for boys. The test was nicely validated against a double criteria of creativeness, teachers' ratings plus divergent thinking scores, a strategy which the present authors applaud (Davis, 1975).

The 300-item Alpha Biographical Inventory (Institute for Behavioral Research in Creativity, 1967) was originally developed to identify adult creative scientists. A few word changes produced another high-school level instrument which assesses personality traits (e.g., curiosity), past creative activities, self-ratings of creativity, imagination, and originality, and other attitudinal and biographical information. The instrument produces scores for predicting creativity and academic success, but costs about one dollar per person for computer scoring.

The Adjective Check List (ACL; Gough, 1952), which asks the student to endorse whichever of 300 adjectives apply to him or her, also may be scored for creativeness (Domino, 1970; Smith & Schaefer, 1969). One study (Ironson, 1974; Ironson & Davis, unpublished, 1977), however, showed that college students could easily fake either a high or low creativity score when asked to do so, indicating that the average college-student-in-the-street has a reasonably accurate perception of the creative personality. While there have been no high-school level validations of the ACL creativity scales, the test should be useable with these young adults.

The 102-item How Do You Think test (Davis, 1975; Davis & Subkoviak, 1975) is based largely on the above seven-point summary of the creative personality. Internal consistency has been high, with Hoyt reliabilities between .91 and .95 in a dozen administrations. The instrument has been validated against seemingly good criteria: (a) samples of artwork or handicrafts, (b) poetry or a short story, (c) ideas for inventions, and (d) an innovative teaching method, all of which were required for a college course in creativity. Current research is exploring its validity and usability with high-school populations.

Children's Inventories: GIFT

The success of these personality-based tests of adult creative potential leads quite naturally down the chronological ladder to the elementary school. With 5- to 11-year old children are personality traits sufficiently stable to reliably influence their observed creativeness?

Can we measure these traits? Can we find outside criteria of children's creativeness? At least two instruments, the Children's Reactive Curiosity Scale (Penney & McCann, 1964) and the Pennsylvania Assessment of Creative Tendency (PACT; Rookey, 1974) have produced positive and encouraging findings with children in grade 3 and in grades 4 and 5, respectively.

The Group Inventory for Finding Creative Talent (GIFT), developed by Rimm (1976; Rimm & Davis, 1976), was created in three similar forms for grades 1 and 2 (Primary Form), grades 3 and 4 (Elementary Form), and grades 5 and 6 (Upper Elementary Form).[1] The tests are 36 items in length, with 25 items common to the three forms. Students respond by circling "Yes" if an item applies to them, "No" if it does not. The test must be read to first grade students, but they can handle their own circling. GIFT is based on many of the same sorts of assumptions and traits as independence, curiosity, perseverence, flexibility, interests in art and writing, broad interests, plus some biographical information which could orient a child toward creativeness (See Table 1). At present, the tests are available in English, Spanish, French and Hebrew, with cross-cultural research in progress.

The early results with American Children should modestly be described as "encouraging," but our true reaction is closer to "exciting." A pilot version of GIFT was administered to 175 K-6 grade children, and the final instruments were given to 365 students in grades 1-6. The Hoyt internal reliability coefficients for the GIFT Primary, Elementary and Upper Elementary inventories were .55, .69, and .68, respectively. Since 126 students participated in both the pilot and the final administration, test-retest information was readily available, producing in a reliability coefficient of .56. As an interesting comparison, a reliability figure was for teacher nominations for creativeness of student ideas also was obtained. This reliability coefficient was based on the same sixth-month interval, but with different teachers for the first nomination than for the second. That correlation was only .18, indicating that GIFT was considerably more reliable over the six-month period than were the two sets of teachers.

As for validity criteria, in this initial main study teachers rated each student on a 5-point scale ("1" - "very low creative level, has rarely expressed any creative ideas in any verbal, musical or artistic form"; "5" - highly creative, has many and original ideas related to art, music, class materials or out-of-class interest"). Teachers also rated students' "intellectual ability" to help emphasize the distincion

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[1] Copies of GIFT are available from Dr. Sylvia Rimm, Educational Assessment Service, Inc., Route 1, Watertown, Wisconsin 53904, at minimal cost in exchange for the reporting of scores and validity data.

Table 1

Sample Items from GIFT

Item #	Item	Intended Trait
1	I like to make up my own songs.	Varied Interests
10	I like to paint pictures.	Interest in Art
*23	I would rather play old games than new.	Flexibility
9	I have some really good ideas.	Independence
13	I like to take things apart to see how they work.	Curiosity
16	Somethimes my mom or dad and I make things together.	Biographical
*5	Making up stories is a waste of time.	Interest in writing
*12	A picture of the sun should always be colored yellow.	Independence
*14	I'd rather color or paint in a coloring book than make my own pictures.	Independence
*15	Easy puzzles are the most fun.	Perseverance
4	I ask a lot of questions.	Curiosity
8	It's all right to sometimes change the rules of the game.	Flexibility
11	I like things that are hard to do.	Perseverance
*19	I wish other children wouldn't ask so many questions.	Curiosity

* Negatively related to creativeness

between intelligence and creativeness. In addition, for grades 2-6 two experimenters rates the creativeness of short stories and pictures produced by the children. These ratings were combined with the teacer ratings to produce a composite criteria of creativeness.

Over all children in all grades, the correlation between GIFT scores (36 item tests) and the composite creativity criterion was $r = < .30$, $p < .01$. Using only the 25 items common to all three forms the correlation increased to .34, p .01. In addition, an art teacher nominated a subgroup of students as being "unusually creative in art." Their mean GIFT scores were significantly higher ($p < .001$) than the scores of other students.

Not surprisingly, an analysis by grade showed that validity coefficients generally improved with higher grades. With age, we all become more stable. Also, as shown in Table 2 not every criterion reached statistical significance for every grade, although all correlations are positive.

More recent research conducted by others has produced data at least as "encouraging" as the original validity study. Note in Table 3 that GIFT shows good validity with children in both gifted classes and in learning disabilities classes. Somehow, this wide applicability seemed like a bonus. The first cross-cultural data, involving children of recent immigrants to Israel, showed correlations between GIFT scores, on one hand, and teacher ratings of artwork, on the other, to be statistically significant for four of the six grades. Pearson rs ranged from .01 to .62; however, sample sizes were quite small.

In sum, considerable evidence reinforces the notion that creative individuals--including children--generally possess an identifiable constellation of personological characteristics. Instruments, such as GIFT, designed to measure such traits may be very useful for the identification of creatively gifted children and for future research into the dynamics of human creative behavior.

Table 2

Relationship of GIFT Scores to Criteria

Group	Teacher Ratings N	Teacher Ratings r	Writing N	Writing r	Art N	Art r	Combined Criterion N	Combined Criterion r
All Subjects	349	.21**	310	.21**	365	.18**	310	.30**
Females	174	.20*	158	.22**	180	.22**	158	.33**
Males	161	.20*	142	.17*	170	.12	142	.23**
Grade 1	39	.08			55	.13		
Grade 2	69	.25*	69	.15	69	.08	69	.22
Grade 3	59	.14	59	.36**	59	.05	59	.27*
Grade 4	52	.47**	52	.15	52	.14	52	.35**
Grade 5	62	.19	62	.17	62	.29*	62	.32**
Grade 6	68	.25*	68	.23	68	.38**	68	.39**

* $p < .05$

** $p < .01$

Table 3

Relationship of GIFT Scores to Creativity Criteria
in Recent Research Findings

Program	N	Teacher Rating	Art Rating	Story Rating	Combined Criterion Score
Grades 1-6 Suburban Elementary School	349	.21**	.18	.21**	.30**
Grades 1-2 Suburban Elementary School	52	.28**	.42**		.39**
Grades 2-7 Gifted Program	30	.41*			
Grade 5 Rural Elementary School	24	.36*			
Grades K-6 Learning Disability Class	19	.54*	.33		.49*
Grade 1 Rural Elementary School	153	.25**			
Grade 6 Rural Elementary School	143	.31**			

* $p < .05$

** $p < .01$

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GIFT

GROUP INVENTORY FOR FINDING CREATIVE TALENT

(PRIMARY LEVEL)

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Route 1
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GIFT

(Primary Level)

DATE _____

NAME _____ GRADE _____

SCHOOL _____

Read each sentence on the next pages. Circle YES next to each sentence if you agree with it and NO if you don't agree. If you're not sure whether you agree or not or think you sometimes agree, circle the answer which is closest to the way you feel. This test has no right or wrong answers. We only want to know how YOU think and how YOU feel about things, and what YOU like to do.

1.	I like to make up my own songs.	YES	NO
2.	I like to take walks alone.	YES	NO
3.	My mom or dad like to play with me.	YES	NO
4.	I ask a lot of questions.	YES	NO
5.	Making up stories is a waste of time.	YES	NO
6.	I like to have only one or two friends.	YES	NO
7.	I like to hear stories about life in other countries.	YES	NO
8.	It's all right to sometimes change the rules of a game.	YES	NO
9.	I have some really good ideas.	YES	NO
10.	I like to paint pictures.	YES	NO
11.	I like things that are hard to do.	YES	NO
12.	A picture of the sun should always be colored yellow.	YES	NO
13.	I like to take things apart to see how they work.	YES	NO
14.	I'd rather color or paint in a coloring book than make my own pictures.	YES	NO

15.	Easy puzzles are the most fun.	YES	NO
16.	Sometimes my mom or dad and I make things together.	YES	NO
17.	I like to learn about animals.	YES	NO
18.	My dad likes to make things around the house.	YES	NO
19.	I wish other children wouldn't ask so many questions.	YES	NO
20.	It is hard to find things to do when I'm alone.	YES	NO
21.	My dad thinks I usually do things right.	YES	NO
22.	I like stories of long ago.	YES	NO
23.	I would rather play old games than new ones.	YES	NO
24.	When something I want to do gets hard I give up and try something else.	YES	NO
25.	I always like to play with friends, but never alone.	YES	NO
26.	I like to collect a lot of things.	YES	NO
27.	Make believe games are the most fun.	YES	NO
28.	My mom and dad say things that are funny.	YES	NO
29.	Even if my friends are playing a game I don't like, I always play with them anyway.	YES	NO
30.	I like to play outside on a rainy day.	YES	NO
31.	My mom really likes the things I make.	YES	NO
32.	I like to try new things even if I'm a little afraid.	YES	NO
33.	My mom chooses the clothes I wear to school each day.	YES	NO
34.	I like to build things.	YES	NO
35.	I like to make up jokes.	YES	NO
36.	Real life stories are better than make believe ones.	YES	NO

GIFT

GROUP INVENTORY FOR FINDING CREATIVE TALENT

(ELEMENTARY LEVEL)

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Sylvia Rimm
Educational Assessment Service, Inc.
Route 1
Watertown, WI 53094
(414)261-1118

GIFT

(Elementary Level)

DATE _____

NAME _____ GRADE _____

SCHOOL _____

Read each sentence below. Circle YES next to each sentence if you agree with it and NO if you don't agree. If you're not sure whether you agree or not or think you sometimes agree, circle the answer which is closest to the way you feel. This test has no right or wrong answers. We only want to know how YOU think and how YOU feel about things, and what YOU like to do.

1.	I like to make up my own songs.	YES	NO
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3.	My mom or dad like to play with me.	YES	NO
4.	I ask a lot of questions.	YES	NO
5.	Making up stories is a waste of time.	YES	NO
6.	I like to have only one or two friends.	YES	NO
7.	I like to hear stories about life in other countries.	YES	NO
8.	It's all right to sometimes change the rules of a game.	YES	NO
9.	I have some really good ideas.	YES	NO
10.	I like to paint pictures.	YES	NO
11.	I like things that are hard to do.	YES	NO
12.	A picture of the sun should always be colored yellow.	YES	NO
13.	I like to take things apart to see how they work.	YES	NO
14.	I'd rather color or paint in a coloring book than make my own pictures.	YES	NO

15.	Easy puzzles are the most fun.	YES	NO
16.	Sometimes my mom or dad and I make things together.	YES	NO
17.	I like to learn about animals.	YES	NO
18.	My dad likes to make things around the house.	YES	NO
19.	I wish other children wouldn't ask so many questions.	YES	NO
20.	It's hard to find things to do when I'm alone.	YES	NO
21.	My dad thinks I usually do things right.	YES	NO
22.	I like stories of long ago.	YES	NO
23.	I would rather play old games than new games.	YES	NO
24.	When something I want to do gets hard I give up and try something else.	YES	NO
25.	I always like to play with friends, but never alone.	YES	NO
26.	I have many hobbies.	YES	NO
27.	Playing make believe games seems babyish.	YES	NO
28.	I would go to a new place only if I knew someone else who was going there.	YES	NO
29.	I often wonder what makes me dream.	YES	NO
30.	I like to do my own science experiments.	YES	NO
31.	I like to read books about the future.	YES	NO
32.	I would like to try going to a different school for a while.	YES	NO
33.	I can work on my hobby for a long time and not get bored.	YES	NO
34.	Almost all my friends are in the same grade as I am.	YES	NO
35.	I like to make up jokes.	YES	NO
36.	Real life stories are better than make believe ones.	YES	NO

GIFT

GROUP INVENTORY FOR FINDING CREATIVE TALENT

(UPPER ELEMENTARY LEVEL)

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Route 1
Watertown, WI 53094
(414)261-1118

GIFT

(Upper Elementary Level)

DATE _____

NAME _____ GRADE _____

SCHOOL _____

Read each sentence below. Circle YES next to each sentence if you agree with it and NO if you don't agree. If you're not sure whether you agree or not or think you sometimes agree, circle the answer which is closest to the way you feel. This test has no right or wrong answers. We only want to know how YOU think and how YOU feel about things, and what YOU like to do.

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5.	Making up stories is a waste of time.	YES	NO
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16.	Sometimes my mom or dad and I make things together.	YES	NO
17.	I like to learn about animals.	YES	NO
18.	My dad likes to make things around the house.	YES	NO
19.	I wish other children wouldn't ask so many questions.	YES	NO
20.	It's hard to find things to do when I'm alone.	YES	NO
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22.	I like stories of long ago.	YES	NO
23.	I would rather play old games than new games.	YES	NO
24.	When something I want to do gets hard I give up and try something else.	YES	NO
25.	I always like to play with friends, but never alone.	YES	NO
26.	I have many hobbies.	YES	NO
27.	Playing make believe games seems babyish.	YES	NO
28.	I would go to a new place only if I knew someone else who was going there.	YES	NO
29.	I often wonder what makes me dream.	YES	NO
30.	I like to do my own science experiments.	YES	NO
31.	I like to read books about the future.	YES	NO
32.	I would like to try going to a different school for a while.	YES	NO
33.	I can work on my hobby for a long time and not get bored.	YES	NO
34.	Almost all my friends are in the same grade as I am.	YES	NO
35.	I always do the things my parents say to do.	YES	NO
36.	I'm a lot like most of my friends.	YES	NO

Fostering Creativity is Basic for the Gifted and Talented

By

Dr. Leonore W. Dickmann

For too long the educational process has focused on problem-solving! Today, there is no longer a justification for this nor is there the luxury possible for prolonging it. The times demand creative thinking and the arena is an arena in which the computer can easily handle the memory or informational retrieval aspects of problem solving, the morphological analysis or forced relationship of facts, the data for various answerings. Yet, in this arena is needed the individual who has sensitivity in sensing problems, ability in choosing important areas for attack, and skill in productive thinking. It is an arena in which problem-finding rather than problem-solving is a foremost emphasis and the human need is for the problem-finder rather than for the problem-solver. This individual as someone once stated, is the person whose dreams keep him awake in the night while the rest of the world lies sleeping. It is the student in our classrooms referred to as gifted and talented.

The educator's role, then, is to facilitate the release of creative potential in these students, to find ways of fostering creativity, and to value its evidence. With an emphasis on facilitation, fostering, and rewarding creativity, the teacher becomes an educator in the root meaning of the word - to lead forth, draw out, or bring about that which is latent. It is in this way that the unique, original, or new response is possible rather than "the one," the correct, or right answer is expected or received.

A story has been told that Eskimo artists, when they create, do not begin by deciding what to make. They reflect or wonder what is inside the ivory they are about to carve. As they carve, they begin to find it, for of course it was there waiting to be discovered and released.

The teacher, in working with the gifted and talented to foster creative thinking, by the same token, does not begin by imposing stencils on the learner nor deciding "what" to do to the student. The task requires an attitude of openness on the part of the instructor. It is a point of view interested in process that declares, "Here is a human being with a unique contribution for the human scene. Let's see how we can find it!" Then, this teacher would begin a critical path method that encourages the learner to unfold or free that which is within waiting for discovery.

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Following a critical path method (CPM) to creativity, acknowledges that working with the gifted and talented requires a form of precision rather than a hit and miss approach - mostly miss as the data indicate. Often, time is so delegated in the curriculum plan that little of it is left for specific work in creativity. With a CPM, time is so structured that opportunities for freeing the imagination are legitimized, scheduled with conscious decisioning and not "squeezed in," left to chance, or held out as a second best promise "if everything else is finished."

With time deliberately allowed for creativity, the teacher is free to pursue the CPM. The CPM makes provision for learning experiences focusing on a deliberate approach to creativity. It may have as many of these experiences as are possible within the resource constraints. It is not simply a question of many learning experiences, however, but rather it is a question of the quality of an experience.

To look at quality, it may be helpful to work in terms of a model. The four "P's" model, offered by Calvin Taylor may be a springboard.

Taylor has proposed that creativity may be viewed from the perspective of a person, product, process, or press. The teacher may wish to share this model with the students.

Beginning with press, for this is the beginning, it is necessary to think of press as the environment, climate, or atmosphere in which the gifted and talented student learns. The press may be viewed as physical and psychological. However it is addressed, it must be perceived as the pivotal aspect in the learning process and one in which the instructor influences directly.

The physical press implies a rich environment of materials to explore, supplies to use, objects to manipulate. It may also embrace space, color, music, or food. It is the setting of natural or man-made objects that attracts attention and stimulates students.

The psychological press is the climate the teacher establishes or atmosphere radiated of freedom, happiness, and friendliness that conveys a feeling that the teacher enjoys learners and learning, has confidence that students are capable of creating, and is responsive to their needs and dreams. It is the antithesis of the killer-phrase, the put-down, or throwing of cold water on the budding Beethoven, the blossoming Picasso, the flowering Curie.

A second facet, then, for viewing creativity is to see it as a person, as a Buckminster Fuller, a Frank Lloyd Wright, a Maria Tallchief. With this focus, the teacher will want to lean heavily on the biographies of creative individuals, having many stories available for reading, discussing, and dramatizing. The teacher will help learners to understand the parallel uniqueness of the high creatives and themselves, each with a creative contribution to make dependent on discipline, persistence, and perseverance, as exemplified in the personal accounts. The teacher will help to dispel the awe and mystery often associated with creative people and will serve as a patron to students in leading them to appreciate that their creative attempts can be beginnings to the same powerful contributions the other high creatives have made.

Bulletin boards of current news articles concerning creative people, displays relating to their contributions, and one to one contacts with creative individuals in the community will help to dispel the romanticizing and help students to see creativity as a reality for themselves rather than for someone else. It is important to assure students creativity is a possibility for them here and now rather than waiting for them in some dream land yonder.

Moving to facet three of the "4 P's" model, it is rewarding to view creativity as a process. Here, students not only look at process through accounts of others but have direct insights to relate. In studying a musician, they may also create music, in reading poetry, they may write their own, in acting out lines for another's play, they may engage in spontaneous creative dramatics. These are specific kinds of learning experiences for creative opportunities; however, it must be underscored that the process the teacher uses to allow students to engage in the creative process is equally important, if not foremost. Basic to the teacher's process is attitude. It may best be captured through the suspension of judgment principle or what is popularly called "acceptance" in the "brainstorming" technique.

The brainstorming technique, as presented by Alex Osborne, follows four rules for ideation starting with ruling out criticism, welcoming free-wheeling, wanting quantity, and suggesting combining of ideas. These rules are basic in the process of working with the gifted and talented. First, the teacher needs to adhere to this in relating to students and second, needs to help learners understand and accept the concept for themselves.

Learners need the freedom to create without criticism of their ideas and efforts, verbal or non-verbal. One cannot create and criticize at the same time nor can one create and be criticized at the same time. The outcome will be lukewarm, a distortion, perhaps or possibly even be squelched or aborted. Creating and judging are separate processes and must be so distinguished. Creativity needs freedom to emerge before the evaluation.

Students and the teacher must adopt a free-wheeling attitude that welcomes the spontaneous, allows one idea to lead to another, and allows the law of association to operate. Through this, it is possible to tap the intuitive, a quality that looms large in the lives of high creatives.

Quantity of ideas will be stressed by both teacher and students in ideative sessions, whether solo, in group, or total class sessions. Scientific research conducted at the University of Buffalo confirms the fact that quantity breeds quality in idea production. Instead of, "What is the answer or right answer?" the question may be phrased, "What are some possibilities, preferabilities, or alternatives?" The range of thought is thus freed from staying in one dimension for responding.

Then, students and teacher need awareness of the importance of combining ideas to see a new mix, new possibilities, strangeness to toy with and pursue for probabilities leading to improvement. They need opportunity to engage in what is called "new think," vertical and lateral thinking, the process of digging many holes laterally rather than digging vertically - one hole deeper.

These four rules present a challenge for both teacher and students. It is necessary in creating to lift the burden of criticism from self and others. Brainstorming offers a way of responding that says, "Go ahead! Say it! Try it! The more pieces in the kaleidoscope, the more the design possibilities." It is green light thinking that frees the individual from fear, allows him to trust his feelings, and encourage him to imagine while judgment is suspended.

Suspending judgment continues throughout the processing until the data are in and a product results. With closure, comes the time for assessment, appraisal and judgment of the creative endeavor. It is a time when the individual states, "This is it! Now, it may be shown. It fits." The individual may not always be satisfied with the result but working within constraints decides to culminate process. The locus of evaluation is, of course, always from within but the teacher in working with the gifted and talented will help them to work in terms of criteria for the judgment. Consideration is given for originality, redefinition, elaboration, fluency, and flexibility as emphasized by Torrance.

The gifted and talented need and deserve this consideration. They need waymarks or guideposts to understand their uniqueness. They sense their difference, their uniqueness, and original thinking and if it isn't understood and encouraged, it may be thwarted to the loss and possible harm to the individual and society.

Many of the gifted and talented could be key members of the next generation of producers in our society. Yet failure to help these children is a societal tragedy, the extent of which is difficult to measure. How can we measure that song unwritten, the curative drug undiscovered, the absence of political insight. How can we measure the special talent undiscovered and unshared in helping us to catch a better glimpse of what truth, love and beauty are?

People of this nation and the world over are becoming increasingly concerned about their natural resources - coal, oil, gas, clean water, and pure air. Within this concern must reside a related concern for human potential - for leadership and creative thinkers. Failure to foster creative thinking in the gifted and talented deprives the individual and his society of the crucial human input so desperately needed today. It goes without statement that our arena in which we live is certainly one of criticality in all areas and at all levels demanding the very best in leadership and creative thought. We can ill afford to leave valuable resources - coal, oil, giftedness or talent - unmined.

The kinds of automobiles in which we shall ride, or the types of planes in which we shall fly will depend on the amount and quality of our creative thinking. On it also will depend our laws and sociological reforms that will guide the future of our nation. The very air we breathe, the water we drink, and the kinds of food available to us will depend on the quantity and quality of our creative thought. The challenge is that the future may belong to that nation that builds an effective program in fostering creative thinking in its gifted and talented.

Since Sputnik little has been done in the United States in helping the gifted and talented. Other countries such as Russia and Iran have already established priority programs for these individuals. Today, with crises in every direction it behooves educators in the United States to use the best procedures with the gifted and talented in our nation to foster their creative thinking skills. Educators stand at the cross-roads but there is but one direction to turn! Let's turn to the gifted and talented and give them a curriculum fostering creativity as a basic skill.

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Program Objectives for Gifted, Talented, and Creative Students

by

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University of Wisconsin-Madison

A. Diminish Self-Dissatisfaction

Being different, even if it is being talented, frequently leads to negative feelings or self-dissatisfaction. It is most important to prevent dissatisfaction from occurring by helping build a positive self-concept from the beginning. Frequently talented students learn they are different from peers after the first year or two of school when they become sensitive to self-in-relation to others. When self-dissatisfaction occurs, the teacher should look for significant changes in behavior such as excessive withdrawal or aggressiveness.

B. Improve Self-Understanding

Children need to understand their talents--and their accelerated development--in order to enhance their self-concept (or diminish self-dissatisfaction). Most importantly, each talented student should understand the intensity or degree of accelerated development and whether it is general or specific (i.e., manifested in all or one or two aspects of scholastic performance).

C. Stimulate Interests, Initiative

In part, the talented student should be given some freedom. But in elementary grades and to a lesser extent throughout school, teachers must provide many of the materials and structure many of the learning opportunities. The teacher of a gifted student could be compared to a learning coordinator.

D. Foster Conceptual Development

Accelerated development requires appropriate learning tasks to help talented students continue their growth. Both conceptual (Piaget & Kohlberg)

as well as metaphorical (Samples) development should be fostered. Teachers may have to become more familiar with the literature regarding metaphorical development and divergent thinking.

E. Foster Motivation

Motivation can be defined as an inner drive. When defined as an inner drive, it is necessary to provide opportunities for motivated students to set their own course to a certain extent. However, motivated students will need help in structuring appropriate learning opportunities and they will need feedback regarding their performance. Faculty can also teach students how to evaluate their endeavors thus freeing them from being totally dependent on others for feedback and evaluation.

F. Fostering An Internal Frame of Reference

Developing "a value system," "an internal locus of control" and "field-independence" are related terms. Knowing and testing oneself, being motivated, and being capable of self-evaluation are representative of someone with an internal frame of reference.

G. Achieve Effective Peer Relations

The talented student may require more teacher assistance with this task than all the others combined. Group dynamics in the classroom are the teachers responsibility. Effectively orchestrating a classroom situation with one or two pupils with accelerated development presents a challenge to any teacher. A beginning point is to have all students recognize and accept their somewhat unique levels of development similarly to how we accept (but maybe don't like) differences in height, weight and speed afoot.

The Alienated Gifted:
A Problem to Self and Society

by

Barbara I. Bickford
University of Wisconsin

1977

Human behavior is the result of the interaction between an individual and the environment. In this case, the individual is an adolescent who is gifted and alienated and is functioning in the school environment. How these facets can relate to and influence one another is the focus of this paper.

Any fruitful discussion, however, must begin with a mutual understanding of terms. Specifically examined will be (1) a definition of "gifted" and associated characteristics, (2) a description of the basic developmental functions of the adolescent period, and (3) types of alienation. The discussion will revolve around the ways in which these interact with and relate to the school environment, and an exploration of possible ways to reach those who are alienated and preventive measures to lessen the possibility of future adolescent alienation.

Who are the Gifted?

Historically the gifted were considered to be only those students with exceptional academic and intellectual talents. The current definition developed for the Report to Congress (1972) and used by Gallagher (1975) defines giftedness in much broader terms.

> Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities, are capable of high performance . . .
>
> Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:
>
> 1. general intellectual ability
> 2. specific academic aptitude
> 3. creative or productive thinking
> 4. leadership ability
> 5. visual and performing arts
> 6. psychomotor ability

> It can be assumed that utilization of these criteria for identification of the gifted and talented will encompass a minimum of 3 to 5 percent of the school population. (p. 2)

Identification of the gifted does not rely on any one test. The current pattern is to use combinations of approaches--teacher identification, achievement test scores, school grades, scores on creativity tests, etc. (Gallagher, 1975). Even with the expanded definition of giftedness, the majority of the literature has examined either the high intelligence group or the creative. The intellectually gifted are those who have the kind of abilities measure by individual intelligence tests. They are considered to be gifted if their IQ score ranges between 120 and 130 or above. The creative person is generally someone who does well on any of various creativity measures, or produces creative products in his/her field. For the purposes of this discussion the intellectual and the creative will be the types of giftedness examined.

It is important to remember that even within a subgroup, the gifted are not homogeneous; rather, they vary widely and cover a full spectrum of individual differences. We can discuss general characteristics that often typify one segment, but the possible variations and interactions of these characteristics with others that any individual might have or with the environment are infinite. Therefore, in describing the qualities of the creative or the intellectual person, we are actually talking about a clustering of traits that is common to the group, but each trait may not be present in every person within that group.

Socially, the gifted tend to choose children similar to themselves in mental age in both work and play situations. As children they are popular and well accepted, and develop social maturity early. During adolescence, the gifted, according to Gallagher (1966), resemble college men and women more closely than they do their own agemates. Gallagher (1966) also points out,

> while the gifted were more popular at the elementary school levels, they were not significantly more socially acceptable than their classmates at the secondary school level. This result seems to support the popular observation that intellectually superior children are at their lowest peer popularity level during the high school period when peer values are the most important. (p. 144)

Although they do rely on peer acceptance as adolescents, they are less concerned with boy-girl relationships and with lack of rapport with parents.

Creativity is not a concept that is only applicable to the arts, but is used throughout this paper to describe those in any field who meet the definition, as cited earlier. Cognitively, this group is typified by inventiveness, originality, intuition, perceptual openness, and a preference for sense perceptions. The cognitive style is described as divergent

thinking, which implies starting from a given and using flexible approaches, producing a variety of responses and/or possible solutions. Dellas and Gaier (1970) caution that although

> the available evidence does suggest a relationship between creative performance and the divergent thinking attributed to the creative. . .the diversity of these intellectual aspects of creativity and the fact that they are relatively distinct components indicate that perhaps different types of creative talent exist, the scientific creative probably excelling in different abilities from the aesthetic creative. (p. 182)

They substantiate the point with two studies, Skager, Klein, and Schultz (1967) and Biettel (1964), that indicate a lack of relationship between divergent thinking measures and artistic achievement. Another cognitive variable distinctive of the creative person is a preference for complexity, the rich, dynamic, and asymmetrical. In addition, they like difficult tasks and prefer to work on their own.

Socially, the creative person may be introverted, although studies find contradictory results. They are poised, however, and self-confident and independent in social behavior.

Turning to Getzels and Jackson (1958) for a look at creative values, they find that the creative child, when rating desired personal qualities, rated a wide range of interests, emotional stability, and sense of humor higher than do members of the high IQ group. Sense of humor is a particularly significant difference.

Adolescence

Although the gifted may mature early, during the teenage years they are still passing through the developmental phase of adolescence. The thrust of adolescence is the transition from childhood into adulthood; the main ingredient for this transition is an identity crisis. The amount of crisis depends, of course, upon the individual, but for virtually all adolescents there is at least some confusion resulting from a rapidly changing body, and the differing societal expectations that accompany those changes.

Various theoretical viewpoints see the main task of the adolescent period as the resolution of the identity crisis. Depending upon the theorist, this concept of identity includes the assumption of personal liability, gaining a clear, firm personal identity, avoiding "role confusion" and lack of autonomy, and the gaining of self-esteem. A good summary, offered by Ellis and Potter (1970), is that "adolescence is most fundamentally a period for the crystallization of one's sense of self--a satisfactory integration of sexual identity, goals and aspirations, personal ethics, and emotional independence" (p. 52). This sense of self, or self-concept, is an extremely complex and continuing process of change and development.

How does an adolescent choose what is or is not appropriate? Judgments are made upon past successes or failures, new roles are modeled after and practiced within the safe confines of the peer group, and feedback on behavior is gained from those who are important to the adolescent, i.e., significant others. The strength of these significant others is related to the individual's perception of them, and to the general importance he/she attaches to what other people think.

The discussion thus far has dealt with some of the parts that make up the structure of the self-concept. It should be stressed, however, that these interrelated pieces form a dynamic whole which interacts with its environment. It is the positive or negative view that each person has of this whole self that comprises self esteem. The quality of one's self-concept--self-esteem--then, can be described as the sum of the positive or negative views one holds for each of the facets that comprises his "self." Simply, self-esteem is how highly we think of ourselves, and do we like ourselves.

The importance of the self-concept is derived from its function. How we see ourselves acts as a screen through which we perceive and interpret our own actions and those of the rest of the world. In turn, how an individual sees himself and his situation influences his behavior. These perceptions serve a selecting function that results in most people choosing a life-style which combines a maximum of value with a maximum chance of success. "Areas that are not highly valued and/or for which there is little chance of success become deemphasized" (McCandless, 1976, p. 444). Thus, our self-concept influences how we see, what we see, and what we do.

Once established, the self-concept is relatively stable. If the self-concept is regarded as a balance of its many facets resulting in an individual's adjustment, then this balance represents

> the safest and most satisfactory accommodation to (one's) life's circumstances at a given time. Thus changing it is disturbing and threatens the person's well being, regardless of how precarious his well being may be. Consequently changes in self-concept are resisted. (McCandless, 1976, p. 444)

Through times of much trial and error, the adolescent works toward a clear sense of ego identity that can be consistent over time. This is accomplished by reaching a point of harmony within oneself and one's environment. The identity reached has sorted and accommodated the important areas to that individual, has the quality of some form of self-esteem, and is functioning with a "filter system" that allows this identity to achieve a balance and stability within the given environment.

Alienation

Alienation generally describes the process whereby attitudes and values differ, conflict ensues and results in hostility, withdrawal, or indifference. An important point is that the alienation does not come from the differences; rather it is the conflict arising from those differences that creates alienation by some or all of the parties involved.

To be alienated, one must be alienated from something or someone. In the case of the teenager that could mean parents, school, peers, "society", or any of these combined. When discussing alienation, several questions should be asked: the first, as already noted, is from what?, the second is as perceived by whom?, and the third is, how is it expressed? This paper will be limited to alienation within the school setting. The school setting in this instance includes peers, teachers, the curriculum, and the system's expectations for behavior. The answers to the questions, then, are (1) from the school setting, (2) as perceived by parents, or teachers, or the individual, or a combination, and (3) the expression may take any of several forms, including underachievement, social disruption, or indifference.

Alienation from the school setting does not mean there is only one type of alienation; moreover, each type of alienation may be expressed differently depending upon the individual. Again what we are seeing is the interaction of the individual with an environment--the school. The values of the individual are different from those of peers or teachers and/or the school system and if conflict ensues, the individual may become alienated from part or all of the school. This conflict may be within the individual and result from the established values being meaningless to that person. These individuals may play along but they are not accepting what they are doing as part of themselves or their values. Gold (1969) labels this type of alienation as "self-estrangement." The person fulfills a role but does not identify with that role. The conflict may be an individual's feeling of powerlessness to control his/her life, i.e., not being part of the decision-making process, and the result could be either revolt against this process or withdrawal. This type Gold calls "not able to influence." The third type of alienation is labelled "not influenced by"; whereby the conflict brings about rejection of the values by an individual who then purposely does not follow the desires and rules of the rejected person, group, or institution.

Within the school these types of alienation can be seen in various forms. Self-estrangement is probably the least observable and therefore the most difficult to detect. Some underachievers may feel that school is irrelevant to their ability to do well in the future, but recognize the necessity for a high school diploma in terms of parental desires or other reasons. Therefore, they get along in school and do the necessary amount of work, but it is far beneath their capabilities. The time spent in school to a person in this situation is only a fake role to play and not who they "really are."

For an adolescent to complete his/her identity, a set of independent values and needs must be formed. This requires some lack of conformity to the set standards, a questioning of parental and societal values, and a rejection of some.

If this process of devaluation and scrutiny causes mild conflict and alienation, it is no more than the normal route of adolescence. As the intensity of the conflict increases, though, so does the rejection of values. Adults may no longer be seen as models worth copying. The last level of intensity is characterized by Burlingame (1970) who says, "young people may take the final step of renunciation in which they deny allegiance, responsibility and duty to parents and adults" (p. 139).

The Alienated Gifted Teenager

Those gifted teenagers who are alienated are only a small subset of the whole. In general, the gifted are well adjusted and well liked individuals. Those who are alienated within the school setting will be discussed in terms of several basic forms the alienation can take: underachievement, dropping out, behavior problems, and peer problems. These forms answer the question, how is the alienation expressed? Examining the form will include possible reasons why and what types of giftedness might be more likely to be associated with the reason.

One major form of alienation within the school setting is underachievement. In academic terms, underachievement occurs when a student's achievement record in a particular area is markedly lower than his tested ability. This tested ability may be on just IQ and standardized achievement tests. This is the age-old problem of the difference between what people can do and what they will do. The incidence of underachievement among the gifted varies from study to study. The Report to Congress (1972) cited the Project TALENT findings the "grade point averages for 3 years of B's and C's or lower were reported by 20 percent of the gifted students" (p. 201-212). Others, however, have found only 1.3 percent superior high school students with an average below 2.5 on a 4 point scale. The incidence depends upon the cut-off point for both IQ and grade point average, and can vary from study to study.

It is probably safe to say that at least 5 to 10% of the gifted are underachieving; the obvious question is why? In response to such a question, Gallagher (1966) replies, "In studying the general area of underachievement, we must first recognize that to seek a single answer to the question, 'Why do many gifted children underachieve?' is a meaningless quest . . . . There are many different reasons why children do not perform as they might" (59). Therefore, this is not a search for one reason, but an attempt to give an overview of different factors that relate to the problems of underachievement.

Underachievement can be viewed as alienation from academic achievement; i.e., rejection of academic achievement as a worthwhile goal or reward. Perkins (1965) states, "It is reasonable to assume that underachievers and achievers differ in the kinds of behaviors they find self-enhancing and reinforcing and therefore differ in behavior" (p. 2).

A low self-concept that looks to sources other than achievement to fulfill the self-esteem needs is one major reason for underachievement. Various studies have found correlations between a low self-concept, specifically a poor self-concept of ability, and underachievement. Underachievers are described as self-derogatory, with feelings of inferiority and inadequacy, and with less confidence than achievers. If a person enters the adolescent period of a need for identity and particularly self-esteem with a lack of self-confidence, that person will naturally turn his/her attention to the areas that appear, to his/her perception, to offer the most positive feedback to that low self-esteem. Perkins (1965) observes, "Pupils who are unable to achieve satisfaction and approval through academic achievement might be expected to seek them in activities unrelated to the academic assignment or to withdraw from the learning situation" (p. 9).

One basic element of the school environment is the teacher and his/her attitudes and expectations. Ringness (1967) reports that most of his subjects say they care how they are perceived by the teacher. He further states, "Differences in achievement are not related to differences in pupil's perception of teacher expectations, but they are related to attainment of the model pupil role" (p. 98-99). The high achievers felt that they were like the model, while the low achievers saw themselves as a little like the model. Interestingly, "the (pupil) model is not viewed by the majority as that of intellectual development so much as that of 'good behavior'" (p. 99). The teacher was viewed as demanding conforming behavior. Thus, if a child does not fit the model, he/she is likely to run the risk of disapproval from the teacher which results in lowered self-esteem.

Among the gifted, the highly creative child is the most likely candidate to encounter this problem. The traits of impulsivity, lack of inhibition, and disorganization under pressure--particularly pressure to conform, that are among those correlated with underachievement are comparable to those related to creativity. Davis (1975) includes specifically impulsivity and unconventional as reliable traits of creative individuals. These comparisons emphasize the probable inclusion of many creative among gifted underachievers. Torrance (1962) states, "Since creativity involves independence of mind, nonconformity to group pressures, or breaking out of the mold, it is inevitable that highly creative individuals experience some unusual problems of adjustment" (p. 104). In the classroom this means that the desire to emulate the teacher may be weak or even absent. In addition, as Gallagher (1975) illustrates, "Because they are independent in attitude and social behavior, they are more difficult to control in a group. Because they have strong intrinsic motivation to pursue their own bent, they may resist attempts of the teacher or other persons to mold them in certain directions" (p. 247). Clearly, the creative child can be an irritation in the classroom. A specific example is provided by Torrance (1962). "At the second-grade level, the most highly creative individuals were generally quite unpleasant, showing little consideration for the group, little or no goal orientation, little or no identification with the group, and little or no heed to leadership attempts of their less

creative peers" (p. 123). This picture hardly fits the perceived teacher expectation of good behavior and conformity. The result can be seen in the Getzels and Jackson study (1958) in which teachers generally preferred the high IQ to the high creative child. Likewise, Terman and Oden (1959) noted that the high IQ people had been better known by the teachers and were rated as more desirable as students than the highly creative.

The problem for the creative individual is learning how to cope with the tensions and discomfort arising from divergency--of so often being a minority of one (Torrance, 1962). In the classroom, Torrance finds, "the highly creative children have a reputation for having wild or silly ideas, especially the boys. Their teachers and peers agree on this point. Second, their work is characterized by the production of ideas 'off the beaten track, outside the mold'" (p. 78). He later points out that once a reputation of this type is gained, it is difficult for the teacher or classmates to see the good ideas as anything but silly or naughty. As McCandless (1970) notes, "When one possesses socially devalued characteristics, coping with them so as to develop adequate self-esteem is likely to demand special effort" (p. 448). The creative child must either repress his/her creativity or learn to deal with being a minority of one.

If the teacher does not provide the type of atmosphere conducive to self-esteem and a variety of learning and personality styles, the results could be underachievement. After reviewing various studies Purkey concludes, "the teacher's attitudes and opinions regarding his students have a significant influence on their success in school" (p. 47). Furthermore, with or without a predisposition, low self-esteem coupled with several years of academic low achievement produces a teenager who searches for other rewards to bolster the need for a positive self-concept, and devalues the possible rewards of academia.

The underachiever, then, has displaced achievement, but what rewards are sought? In general, the replacement is the peer group. Conger (1973) describes underachieving students as characterized by "difficulty in relating to peers, combined with an excessive dependence on the peer group" (p. 353). Part of the problem may stem from the underachiever's low self-confidence. Related traits of the low achiever are hostility and criticism of self and others. Additionally, the relationship can be seen in the research summary by McCandless (1970) stating, "results from a wide age span, clearer for boys but suggested for girls, indicate that youngsters with low self-esteem are less popular and are less effective within their groups but are hungriest for group acceptance" (p. 458). Ringness (1967) also notes that low achievers are motivated to affiliate with peers rather than to achieve. His summary of the literature indicates that underachievers see the peer group as a means of gaining some emotional security and as a means of reducing anxiety. This dependence upon the peer group may perpetuate underachievement, for, at best, the peer norm for underachievement may be mediocrity. The attitude of the group toward learning will have an even stronger effect upon one who is anxious to please and be a part of that group. If the standards of the group are antisocial and antiachievement, the result could be a total lack of achievement. The overdependence upon the peer group may be the result

of general low self-esteem that leads to underachievement, or the syndrome of underachievement creating low self-esteem may create a greater need for the peer group. Both problems are circular and probably interwoven.

There are also individuals who find underachievement necessary in order to maintain a positive self-image. The most glaring example comes from the literature on sex-role identity. As previously mentioned, the choice of an appropriate sex-role is part of the identity process of adolescence. Puberty and adolescence are also times of great social pressure to conform, including adherance to a "proper" sex role. The consequences of conforming may have inhibiting effects upon achievement and learning.

If, as Hauck (1970) notes, it is assumed that personal adjustment is related to the individual's perception of how closely he/she achieves the social expectations for his or her own sex, then fulfilling that expectation would make for better adjustment than not doing so. The stereotypic expectancy for women in our culture is that they be passive, non-competitive, dependent, nuturant, sensitive, and have a strong need for social acceptance. Hauck further points out that, "Nurturance, obedience and responsibility training are significantly more often aimed toward girls in all cultures; achievement striving and training in self-reliance are more frequently a part of a boy's rearing practices" (p. 27). Girls, then are not supposed to achieve; their self-esteem does not depend upon achievement. Purkey (1970) finds that overall, the research evidence shows a persistent and significant relationship between the self-concept and academic achievement for boys, the relationship is less clear for girls. "Male underachievers," he states, "tend to have more negative self-concepts than female underachievers" (p. 15). Bledsoe (1967) feels that, "The consistently significant positive correlations of self-concept with intelligence and achievement for boys but not for girls would seem to indicate that boys perceive the traits and abilities measured by the intelligence and achievement tests as more important in their self-esteem than do girls" (p. 438). Gifted girls are no exception. In Gallagher's (1966) research summary, he sees the information available suggesting major sex differences, with gifted girls less confident and less intellectually aggressive in the classroom than gifted boys. Thus, by following the accepted pattern of sex-role traits the girl does not learn to associate achievement with a positive self-esteem.

Even more inhibiting to the female is the potential loss of popularity and social approval associated with high achievement. Torrance (1962) indicates that children, by the fourth grade, if not before, understand the social consequences of failure to achieve the behavioral norms associated with sex and social roles. One illustration of this possibility comes from Shaw and McCuen's (1960) study of the onset of underachievement in bright children. For the males, underachievers differed from the achievers at the outset with significance reached by third grade. The underachieving females actually did better than the achieving females through grade five, and only became underachievers in the sixth grade. A time which coincides roughly with the onset of puberty. One plausible conclusion is that these capable girls were not prepared to risk the consequences of not closely following

the passive, noncompetitive role. An additional indicator is that more males than females demonstrate scholastic underachievement throughout school, but the trend is reversed in the college, graduate, and postgraduate years (Raph, Goldberg, & Passow, 1966).

Even when girls do venture into the arena of competition they must be prepared for reinforcement problems. Torrance (1962) describes some experiments done with scientific toys. Although the actual mean performance was almost identical for both girls and boys, "The contributions of boys was more highly valued by peers than those of girls" (p. 112). Because the importance of peer acceptance is so necessary to teenagers, few are willing to risk being ostracized with the resultant loss of self-esteem.

The creative girl may suffer further problems of conflict over roles and a negative reaction to their creativity. "The girl who does show tendencies toward creative ability apparently runs risks in peer acceptance not shared by boys" (Gallagher, 1975, p. 50). Gallagher (1975) summarizes a study by Torrance, finding "Although being divergent did not seem to influence the popularity of the boys in the sample, it did significantly influence the popularity of the girls--the more divergent girls being less frequently chosen" (p. 50). When girls reflect traits common to the creative person, Gallagher (1966) finds "such talent does not come without a price. In this case, the price is a confused sex role identity and unresolved conflicts of dependency versus autonomy. The girls seemed torn between their desire to be feminine and socially acceptable and their yearnings for independence and high achievement" (p. 249).

The creative male suffers on a different level. Because he is open to his own feelings, sensitive, and possibly interested in the arts, all of which are feminine qualities, he is more likely to be alienated from his peers. If he worries about peer acceptance, he may avoid situations that would involve using these creative talents with a loss in productivity. Furthermore, he may underachieve merely to be accepted as "one of the guys." The creative male is not necessarily less masculine, he simply does not repress those feelings that are usually considered feminine.

High IQ individuals may deliberately avoid appearing brainy or studious, just to maintain popularity. Throughout grade school, the gifted generally enjoy a high acceptance and popularity. Their social status, however, shows a relative decrease at the secondary level (Gallagher, 1966), at a time when it is the most important. This is compounded by the fact that gifted children are better able than the average person to correctly identify their social status and that of others. For example, for boys in high school, "The non-studious athlete may demonstrate outstanding brain power without fearing social derogation by peers. However, a display of brilliance by one who is studious and indifferent to sports constitutes a definite status risk" (Gallagher, 1966, p. 40).

Two other factors may contribute underachievement as a reflection of concern by the gifted over a possible loss of self-esteem: fear of failure and fear of success. The fear of failure applies to two different situations. The chronic underachiever is not going to attempt new tasks because he feels predestined to fail and does not wish to prove it to himself or the world. A second problem may be found when a new or a particularly difficult teacher or subject is encountered. "A very common problem with some bright children is their lack of persistence with difficult or complex tasks that are outside their general field of competence or interest. Success comes so easily for them in their areas of special interest that they are inclined to give up easily whenever they encounter problems. Occasionally this lack of persistence will extend to a wide area of school learning" (Lindgren, 1967, p. 516). Why risk failure at something new when keeping to the tasks done well will ensure positive self-regard?

The fear of success was mentioned in the adolescence section. One problem may be the underachiever whose friends dislike "show-offs" and he/she would be accused of that or worse by suddenly doing well. Another possibility is the person whose self-image is relatively stable, and any change in that image, even one that is seen as positive by others, represents a threat to that person's self-esteem. Thirdly, when a gifted or talented person is recognized, expectations by parents, teachers, and even peers are either implicit or explicit. These expectations generally are geared toward great accomplishments in school and career. The pressure accompanying these great plans and ideals may be more than the gifted individual can understand or tolerate. He/she may feel that it is better to set a precedent of mediocrity that can easily be accomplished than to be considered a failure in meeting those expected obligations.

Underachievement may also result from and simultaneously contribute to a view that school is not important. As Purkey (1970) reminds us, "We evaluate the world and its meaning in terms of how we see ourselves. Many students do poorly in school simply because what the school is doing seems irrelevant to himself and his world" (p. 10). The adolescent is searching for an identity and his/her world is filled with the problems and triumphs of becoming a unique individual. "School is more of a routinely-accepted environment than a place which is viewed as important to self-development or which provides interesting content and activities" (Ringness, 1967, p. 98). Gallagher (1966) illustrates the point with an example from Portland, Oregon. "The underachievers, more often than the high achievers, viewed academic achievement as incompatible with enjoying life, having fun, being well-adjusted, or having a good personality" (p. 62). School is regarded as a place unrelated to success, particularly of the moment, happiness or a desired lifestyle.

Even when school is seen as useful for vocational preparation, the student may ignore the possible avenues of achievement. Recalling Maslow's hierarchy, with self-esteem placed as the need preceding self-actualization, this attitude becomes easier to understand. A vocational choice, and meeting its necessary requirements are part of the self-actualization process. For those individuals who have not been able to satisfy the self-esteem need, all of their attention is directed toward that need, with little regard for what may happen in the future. Thus, school is just not important.

The gifted may be underachieving quite simply out of boredom and frustration with unchallenging, repetitive tasks and a curriculum unrelated to their needs and interests. The Report to Congress (1972) illustrates this problem with Terman's longitudinal study of the gifted. "Great discrepancies existed during his [Terman's] study, and continue to persist, between what the gifted child knows and what he is offered, whether in academic or artistic areas. The ensuing boredom leads to underachievement and unworthy patterns of functioning, along with dissatisfaction with oneself and others" (p. 26). MacKinnon's (1962) findings were similar for the creative architects. "In work and courses which caught their interest they could turn in an A performance, but in courses that failed to strike their imagination, they were quite willing to do no work at all" (p. 166). Rather than rebelling against the school, however, the gifted may "play the game," making good grades and going through the appropriate motions. The outcome might become self-estrangement alienation, and a complete distaste and disregard for school. These individuals do not see school as a "real" part of themselves and consequently, see no point in continuing the charade once they are free of parental and societal constraints.

Dropping out of school is a second form of alienation within the school setting. Yet, dropping out of school, particularly at the high school level, is more likely to be the end result or symptom of other problems. Several authors (Conger; Voss, Wendling, & Elliot) expressed the necessity to differentiate between the early and late dropouts. Students who leave high school early, sophomore year for example, are more likely to have limited abilities. It is the late dropouts which are of concern here. Voss, Wendling, and Elliot (1966) found that an analysis of the late dropouts' intelligence scores revealed little or no difference when compared with the scores of the graduates. Clearly, reasons other than intelligence are causing the problem. This conclusion is necessary for the understanding of the gifted dropout.

Depending upon the study and its definition of terms the percentage of dropouts with high abilities varies from 20% (Voss, et al., rated IQ above average) to 3.4% (Report to Congress - rated IQ above 120). The Report to Congress (1972) found this 3.4% represented a 17.6% loss of the gifted studied. French (1975) states, "Recent studies indicate that eight to 11 percent of high school dropouts have IQ's of 110 or over. In a comprehensive study of Pennsylvania youth in 1964-65 we found more than 800 high ability dropouts. Nearly 500 had IQ's of 120 and above and 80 had IQ's of 130 or more" (p. 431). He points out that Pennsylvania also has one of the lowest dropout rates in the country.

The question, again, is why? As previously suggested, dropping out is probably a result rather than a cause of the student's problems. Examining the attitudes and characteristics of dropouts reveals a close similarity to the picture of the underachiever. French describes the male dropout as more frank, assertive, uninhibited, independent, unconventional, and rebellious than those he calls persisters. The dropout students said that school was not preparing them for the "real" world, and they complained about and fought the strong forces within the school to conform. French notes that the picture was similar for the girls who dropped out for reasons other than marriage.

As with underachievement, for the dropout, once academic difficulties have developed, they exert a formidable force of their own (Conger, 1973). In fact, once the problem has reached into high school, dropping out may not be an altogether bad solution, particularly for a boy. Johnston and Bachman (1973) suggest, "The difficulties experienced by the dropouts we studied, the low aspirations and accomplishments, and even the limitations in self-esteem and self-concept, were already present or predictable by the start of the tenth grade, and there is little evidence that dropping out made matters worse" (p. 238).

Behavior problems in the classroom are not all related to a negative identity. The student may come from a family where the patterns of behavior and the values are in direct contrast to those expected by the school and the teacher. Creative children may present discipline problems with their frequent use of humor, or because their creative behavior is misinterpreted as being hostile. Torrance (1964) adds, "Counselors and teachers may become irritated with creative children who seem to create problems for themselves by trying consciously to be different--searching for their uniqueness" (p. 120).

The last form to be discussed is alienation from the peer group. Although, it may or may not affect school performance, the school environment may act as a catalyst for the resultant problems. Torrance (1964) indicates that the creative child is likely to suffer from psychological isolation from peers and teachers. "Many highly creative children find quite early that the use of their creative talents alienates them from their friends" (p. 108). Moreover, it must be reiterated that the creative child not only ignores the norms of adults, he/she also has less desire to emulate peers, and is ostracized for that "differentness."

The problem of relating is a difficult one for children with exceptionally high IQ's, as well. For the person with an IQ over 180, being in a standard classroom is comparable to an average ability person being in a class where everyone else is mentally retarded. Early studies by Hollingworth (1942) and Terman and Oden (1947) found that individuals in this intellect range had difficulties with social adjustment. More recently, The Report to Congress (1972) states, "The highly gifted received little understanding and emotional support from school and community. Their chances for attaining genuine group leadership were very slight, most of them tending to follow rather than lead in attempts to adjust to group mores" (p. 88). The report goes on to say, "developmental disharmonies between high intelligence and adequate physical ability caused problems, and that they often felt inferior, inadequate, and insecure with their peer group" (p. 88). The conclusion of Hollingworth and Terman is that an IQ level between 125 and 155 is the most compatible range for the school setting, because there are enough peers of similar ability to avoid being isolated. If even the highly gifted can relate to others of similar ability, then social adjustment is not a problem (Gallagher, 1966).

While reading this section it is important to keep in mind that no single factor, such as creativity or an exceptionally high IQ can, by itself, cause alienation to occur. A type of gift may predispose, along

with other factors, a person in a certain direction, but it is the interaction of the gifted individual within his/her environment that brings about underachievement, dropping out, behavior problems or peer estrangement. Alienation occurs when the values and needs of that individual cause a conflict with those of the parents, school, or peers.

Reaching the Alienated Gifted Teenager

Too often "reaching" means changing the teenager into what we want them to be. The purpose for reaching the adolescent, then is to induce adoption of our values and goals. Since alienation results not from differences, but from the conflict those differences engender, changing the adolescent to conform to our expectations is only one method for the resolution of that conflict. Changes could also come from the families and teachers of the gifted, and from the school system. This is similar to Lindgren's (1967) concept that our ideas of a student's needs may be quite different from the needs he perceives.

Before methods of change are initiated, the desired and end result should be examined and clarified. What is it we really want, and why? What is the best way to bring about these changes? Are we expecting too much? A final question might be, is this alienation permanent or are there permanent effects? The normal amount of alienation from parents and all authority figures does pass with time and a great deal of patience. The very creative person or the high IQ individual may have interests and behavior patterns that may not seem "well adjusted", but they are socially happy and have the potential for being useful and content according to their own perspective of life. Possibly, they are following the life course that will best fill their own needs.

At the adolescent level the teacher may be able to create situations that can help to build self-esteem. Individualized assignments that allow the underachiever, for example, to succeed could slowly begin to build confidence and assurance regarding school-work. Particularly, for the creative, assignments that capitalize upon their strengths make them associate those strengths with other aspects of school, and allows them to be a part of the class and not an outsider.

It is the process of classroom interactions that brought about the alienation that needs to be examined and changed. The actions of teachers from preschool to high school contribute to the low self-esteem associated with most of the discussed forms of alienation. "Basic to the acquisition of adequate and accurate self-concepts is the teacher who accepts each child as a unique person worthy as an end in himself and who helps him in his growth toward self-realization" (Bledsoe, 1967, p. 438). The outgrowth of this view, of course, is acceptance. Even in discipline, the disapproval should be for the deed and not the doer. Due to their diversity, teaching the gifted may not comfortably permit standard rules of procedure (Report to Congress, 1972).

The educator needs to understand the problems of the gifted and translate that understanding into programs that can improve performance and confidence. For the creative child, Goodale (1970) suggests support of activities which increase the student's self-confidence and persistence, and toleration of student behaviors currently seen as "unpleasant," i.e., non-teacher-oriented. By toleration, he does not mean a free license to all behaviors; rather, the liberty to be curious or less conforming. This tolerance can have a double effect: it will make the creative child feel less stifled by school, and will lessen the apparent "differentness" from his/her peers. Goodale (1970) states,

> The important point is that the child or student not be penalized for being different or for exhibiting his independence and curiosity. In most cases what is needed is a reshaping of the traditional classroom so that materials and facilities are arranged in ways that make it convenient for students to move from task to task, rather than in ways that make it easy and convenient for teachers to exercise complete and unyielding control. (p. 94)

Thus, by encouraging the creative child to use rather than suffocate those attributes that are natural to him/her, such as learning through questioning, guessing, exploring, or experimenting, the child is encouraged to build achievement through those talents, not to underachieve out of repression and conformity.

Creative children like to learn on their own (Torrance, 1962). They may respond well to teaching techniques that use discovery methods. Instructional procedures that seek a uniformly high achievement from each student, such as Mastery Learning (Bloom, 1969), are suggested by Kifer (1975). He explains, "Stated simply, those instructional strategies which provide a means for more students to have more success would be considered preferable to those which do not because of their potential impact on the personality characteristics of students" (p. 207).

The teacher, as the giver of encouragement and rewards in the classroom, has the ability to influence and develop creativity, independence, self-reliance, and self-confidence. That teacher must keep in mind, however, that the creative child may not respond to the standard rewards and goals. Torrance (1962) feels that, "The exercise of their creative powers is itself a reward, and to them [the creative], the most important reward" (p. 120).

There are other ways to help the high IQ child. Underachievement could result not only from low self-esteem, but boredom or fear of failure as well. Again, individualized materials could aid these students to participate in a lesson on a common topic and be challenging at the same time. Grotberg (1962) asks, "Has academic work been so easy in the elementary school and high school that the gifted seldom experience failure and therefore do not learn to deal with it constructively?"(p. 212). Torrance (1962)

feels that the years between ten and twelve should particularly be a time for helping children learn to persist in difficult tasks, and for challenging them to learn things because they are difficult.

In all directions, the data stress that a strong relationship exists between academic success and a positive self-concept. We can reasonably assume, then, that helping the gifted child to gain a positive self-image is a vital influence on his/her future achievement. Purkey (1970) lists the following six factors as particularly important in creating a classroom atmosphere conducive to developing favorable self images in students (p. 50).

1. Challenge - high academic expectations and knowing at what moment success is most likely for an individual.

2. Freedom - the freedom of choice - if a student has a say in his own development and is given personal decisions, he therefore develops faith in his own judgments and thoughts.

3. Respect - a basic feeling by the teacher for the worth and dignity of students.

4. Warmth - creating a psychologically safe and supportive learning situation.

5. Control - classroom control that does not require ridicule and embarrassment, but stems from leadership by teaching and preparation.

6. Success - provision of an educational atmosphere of success rather than failure.

The school can offer help through structural and curricular changes. Estrangement from peers and boredom could be helped through special grouping, or, in some cases, advancing a grade. Ability grouping would allow the teacher to prepare lectures and materials that are more appropriate for the gifted childrens' advanced abilities and interests. Being in a class of others who have roughly the same intellect and capabilities allows the child to feel less isolated and different. Special programs may result in the improved social status of the gifted students who participate in them (Report to Congress, 1972).

Adopting and encouraging the use of individualized materials is another curricular improvement that would allow teachers to stimulate the diverse talents of all students, with an emphasis on success rather than failure. When any test is seen as the "only chance" to prove one's knowledge, it is no surprise that an early series of failures forecasts a low self-image. As adults, there are few of us who would still have jobs if we had been "failed" for every mistake we made learning the basics of that job.

A third structural change would be to allow students to take part in setting their behavior limits and expectations. Students could be included in establishing the rules for their own self-management. The more power the students are allowed, the more responsibility they must feel for the accomplishment of the decided goals. This would call for the teacher to be a helping or resource person, not the final authority. The classroom environmental change from competition to mutual support could be tried. The learner would be changed from someone being forced to accept the knowledge and rules of someone else to a person who gains by contributing from his/her own talents and time. Task failure becomes a learning tool, not something to be feared.

Alienation in the school setting has a variety of causes and appears in various forms. Some of the general forms are linked to a lack of self-confidence, a history of academic failure, a lack of power at the moment which is generalized to the future, fear of failure and peer rejection, and a feeling of being different and estranged from peers. The efforts of a family and the school to reach these children must be accompanied by a sincere effort to accept the current individual and establish some form of communication. Schools, and perhaps parents, have traditionally expected the children to adjust to them, rather than the schools adjusting to the children. In the special case of the gifted, we must recognize an even stronger need for a diversity of programs and materials that will encourage and nourish those gifts rather than stifle them.

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A QUALITATIVELY DIFFERENT PROGRAM DEFINED:

A Description of the Enrichment Triad Model

by

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* Readers are encouraged to obtain:
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* Joseph Renzulli, The Enrichment Triad Model:
* A Guide for Developing Defensible Programs for
* the Gifted and Talented. (Creative Learning
* Press, 530 Silas Deane Highway, Wethersfield,
* Connecticut 06109), 1977.
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The "Enrichment Triad Model" was developed by Joseph Renzulli as a guide for developing defensible programs for gifted, talented, and creative students. The model is predicated upon the characteristics of the gifted as Renzulli understands them:

1. They are usually intelligent,

2. They usually possess creativity, and

3. They usually possess commitment to tasks in the domains of skill or knowledge in which they are said to be gifted.

As a result of intelligence, creativity and commitment, the gifted can go faster, further, deeper, wider, and do this with more independence in selection of what is to be learned and how it is to be learned.

Assuming these to be the characteristics of the gifted, talented, and creative, how can they be accommodated in a comprehensive instructional program? Renzulli's answer is the Enrichment Triad Model. The model consists of three generic types of activities:

TYPE I - General Exploratory Activities[1]
TYPE II - Group Training Activities[2]
TYPE III - Individual and Small Group Investigation of Real Problems[3]

1. Enrichment Triad Model, p. 17.
2. Ibid., p. 24.
3. Ibid., p. 29.

TYPE I: General Exploratory Activities

General exploratory activities are designed to bring the learner into touch with areas in which a sincere interest may exist. The word exploration suggests that Type I activities need not contain required content for all students. Rather students should be allowed to prospect among a variety of topics searching for something which will lead them to explore in depth.

Secondly, Type I activities should be activities about a field rather than in-depth quests in that field. In Exploratory Activities the attempt is made to expose students to what it means to be a historian, a writer, a geologist, or an archaeologist. When books are used in type one activities, they should be "how to" books -- not content books.

Two excellent vehicles for Type I activities are field trips, and the visiting "expert." The critical thing to be kept in mind is to focus upon how to rather than what. An expert can help students understand how to be a writer, a geologist, or a historian.

Type I activities are excellent for helping students with one dominant interest (sports, etc.) to branch out. Even when students are "locked into" a specific study in one area, exploratory activities can help them to find other activities which may, at a later date, strike their fancies. Again, if the student begins to draw or find parallels between the "one" interest and the new area explored, there may be nothing more the teacher need do except to help the student go deeper and wider in both.

Finally, Type I activities are very useful for identifying skills needed by the entire group in Type II (Group Training Activities) and for identifying topics of concern for Type III (Individual and Small Group Investigation of Real Problems).

TYPE II: Group Training Activities

Type II activities are almost exclusively training exercises such as values clarification, data analysis, designing experiments, etc. These training exercises are to improve the individual's capacity to think and to feel by learning how to think and to feel.

All to frequently we assume that students, particularly gifted students, know how to observe or compare or classify or estimate or verify. We also assume that they will know how to be sensitive to others -- or what to be sensitive to -- or how to express caring, sharing, empathy or sympathy. In general, these are invalid assumptions.

Training in thinking and feeling is critical -- especially to the gifted who frequently "get by" without ever having to organize their minds or emotions only to find that they do not have the fundamental processing skills to cope with more challenging situations.

Unfortunately, many persons have adopted Type II activities as the only gifted and talented program. The result is that students learn a bag of tricks such as "brainstorming" or "group processing" without ever anchoring these skills in the variety of things there are to do (Type I) or in some deliberate, in-depth study of some difficult, real-life problem (Type III). Type II activities are means, not ends; they should never be allowed to be ends.

TYPE III: Individual and Small Group Investigation of Real Problems

Type III requires that students use all of the methodologies acquired in Type I activities with all of the processes acquired in Type II activities to do something real. The student becomes an actual investigator of a real problem. In so doing the student becomes a practicing botanist, farmer, engineer, author -- whatever.

This is not to say that youngsters will be masters of the discipline in which they choose to engage. Rather, by using the method of inquiry appropriate to the problem chosen, they will produce a real product which is similar to the product produced by the practitioner.

There are classic examples of Type III activities in the literature where students pursuing Type III activities have stopped production and halted freeways through careful application of disciplines to real social problems. Students, at a less exotic level, are helping to curb vandalism in the schools in Madison, Wisconsin. At still other levels, students are publishing their own poetry and newsletters, playing their own arrangements of their own songs, building their own arboretum, classifying local flora and fauna, organizing oral histories, etc., etc., etc. The possibilities in all disciplines are as endless as the possibilities inherent in that discipline.

The teacher's job in Type III is to help students focus a general area of concern into a solvable problem. (Don't do it for them.) Assist them in acquiring the methodological tools needed to complete the task. And help them to find appropriate audiences (markets) for their efforts.

Type I -- exploration in "how to"; Type II -- skill-building for thinking and feeling; Type III -- product-oriented, exploration of a real problem: The Enrichment Triad Model -- a guide for developing defensible programs for the gifted and talented.

Seven Sides of Symmetry: A Paradigm for Self-Concept For the Gifted, Talented, and Creative

by

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An important thrust in education today is a concern for the individual who is called "gifted, talented, and/or creative." This group of learners needs and deserves consideration. Not only do the gifted, talented, and creative warrant help in curriculum provisions but they merit waymarks or guideposts in understanding their uniqueness as persons. Too often, however, the gifted, talented and creative students are not given specific help in their "self-making." Help is often in terms of curricular emphasis.

Yet, Jacques Maritain said, "The primary aim of education in the broadest sense of the word is . . . to help a child of man to attain his full formation or his completeness as a man."

Few would argue with Maritain's statement. Yet educators have scarcely asked the important question at all: "What kinds of persons do we wish our schools to produce?" John Goodlad suggests that it be made the focal point of tomorrow's curriculum deliberations and of many more discussions to come. He said this in 1966 speaking of tomorrow. Tomorrow has since turned into today.

It's time, then, to focus our attention on this leading question: "What kinds of persons do we wish our schools to produce in order to help a child of man attain his full formation or his completeness as man?" It's time, too, to provide gifted, talented, and creative students with aid in viewing themselves in the "gestalt." Teachers may see the totality but students often see only fragments. They need help in ordering the bits and pieces gleaned and to see where they fit.

To point up man's consciousness of himself as man, it is necessary to provide a framework to students for observation and analysis. Man in all his humanness has identifying attributes. Complete man or man in his full formation may be characterized as man in symmetry. Symmetrical man or man in completeness has seven facets that must be considered in his education. Because the school has primary responsibility for educating a complete man, it behooves educators to be aware of and to take into consideration these seven sides of symmetry. Too often, however, it appears that the school places emphasis on one or more of the seven facets neglecting the others which may be the crucial ones. It is just possible that the neglected facets could be the cement in the educational process.

It could be that educators are afflicted with mind-set to be continually emphasizing certain sides of man's education while totally neglecting either knowingly or unknowingly the remaining sides that go to comprise the whole or complete man - symmetrical man.

Symmetrical Man Defined

Symmetrical man has seven facets or seven sides to his completeness as man. These may be spoken of as attributes or as needs. When lacking they are needs. When fulfilled they are facets possessing identifying attributes.

First, it is self-evident that man needs life or is alive. This, then, is one facet, side or need of symmetrical man. Attributes that serve to identify life or the living might be healthy, sound, and progressive.

Second, man has certain original endowments. He therefore is developing or seeking development in terms of such "givens." Thus, a second facet, although there is no prescribed ordering of the facets, is that of being purposive in the direction of certain basic principles. One basic principle is that man is free or free-born. He is also rational, creative, individual, and perfectible. Implicit in this, man is not only purposive in the direction of these identifying attributes but is also purposive in the direction of the other facets of symmetry.

Third, man has a mind. Intelligence is therefore a facet or a need. Attributes to identify this facet will be knowledgeable, understanding, and judicious. They could also be intuitive, visionary, and perceptive.

Fourth, man needs to be moral, or put another way, man needs moral men. Attributes of the moral person would be good, pure, harmonious, and loyal.

Fifth, man needs love and affection. When fulfilled, man is a loving, caring individual. Attributes of the loving person would be to be peaceful, unselfish, brotherly.

Sixth, man searches for truth, or is truthful, when symmetrical. To be truthful is to be precise, candid, sincere, and authentic.

Seventh, man is spiritual and is concerned with his spiritual nature. Attributes to identify spiritual qualities might be to be responsive, joyous, patient, and resilient.

These seven facets, then, of alive, purposive, intelligent, loving, moral, truthful, and spiritual describe man in symmetry. They may be received as seven needs or as seven sides of symmetrical man. Each need, facet, or side has identifying attributes. The attributes for purposes of this paper have been limited to the number of seven for each facet simply because the writer prefers to work with groups of seven. In reality, the attributes for each facet may be infinite in number.

For each attribute that is desirable in man, there is also a corresponding opposite attribute. The categories of attributes for symmetrical man and the categories of their opposites may be seen in Figure 1. You may not always agree with placement of the attributes. It is not so much a matter of where a desirable attribute appears in the categories but that when identified it does appear somewhere. If it is not a desirable attribute, it will appear somewhere within the categories of the opposites.

To help people be people, or human beings, perhaps it is necessary to study just what it is that makes a human being - or a being human. To be people it is wise to study people. We cannot just trust to hope, chance, or pseudo-experimentation. We need to provide people with a tool to help in their self-making. The gifted, talented, and creative need this help with their role image, also.

It seems to me a pretty sad indictment on education at this point in history to be still studying rats, pigeons, and monkeys or apes, and then presuming to imply that the findings of such study relate to the behavior of human beings.

Rat psychology is not generic and is merely data for the rat. Such a waste of time and effort when time is of essence. Man needs to study man to arrive at a better understanding of himself - to help him in his self-making.

It is time to bring man face to face with his humanity. If we are to help man achieve his full manhood, it seems wise to examine the ingredients that are a part of man. There is much research available as to man's needs, drives, ambitions, hopes, and dreams. There is much evidence to support the fact that man has potential to realize fulfillment in all of these areas. Then what is it that stands in the way?

It seems that here is the place to concentrate endeavor. To focus on the block to progress seems nearest right. The block might very well be educators' resistance to reaching agreement as to a definition of man, his needs, potentials, and desirable attributes. A definite agreement might constitute an approach. Working in terms of seven sides of symmetry could be helpful.

It is not enough to say that man just needs knowledge unless we amplify and say knowledge about self. It is not enough to state that morality is the answer, unless this too is amplified to mean perfection. One cannot stop here, for there are those who declare morals and values cannot be taught directly but somehow must be caught or rubbed off from one to another.

It is not enough to say that if we just develop creatures of truth, we will arrive. If we stop just with truth, we will have forgotten love. If we stop prematurely <u>anywhere</u> along the line, we may neglect man's spiritual nature.

Figure 1

SEVEN FACETS OF SYMMETRY WITH ATTRIBUTES OF SYMMETRICAL MAN INCLUDING THE OPPOSITE ATTRIBUTES

Symmetrical Man	Opposite
I - Alive	
healthy	sickly
sound	defective
progressive	retrograde
fresh	trite
spontaneous	forced
vital	unimportant
invincible	deficient
etc.	etc.
II - Spiritual	
resilient	inflexible
alert	listless
responsive	unfeeling
joyous	unhappy
resourceful	vacuous
patient	impatient
humoristic	humorless
etc.	etc.
III - Purposive	
free	enslaved
rational	irrational
lawful	unlawful
creative	uncreative
individual	stereotyped
disciplined	undisciplined
perfectible	imperfectible
etc.	etc.
IV - Truthful	
precise	inaccurate
candid	biased
authentic	false
sincere	deceitful
perfect	inadequate
factual	discrepant
honest	fraudulent
etc.	etc.
V - Loving	
peaceful	disturbed
merciful	merciless
unselfish	selfish
humble	arrogant
brotherly	unbrotherly
faithful	faithless
just	prejudiced
etc.	etc.
VI - Moral	
loyal	disloyal
courageous	cowardly
open	closed
harmonious	discordant
optimistic	pessimistic
pure	impure
good	bad
etc.	etc.
VII - Intelligent	
intuitive	unintuitive
knowledgeable	ignorant
understanding	unintelligent
judicious	foolish
perceptive	undiscerning
visionary	unimaginative
scientific	unscientific
etc.	etc.

If education's goal is to help man attain his completeness as man, it must be knowledgeable of the seven sides of symmetry, allow and plan for these aspects in the curriculum and evaluate its program in terms of such provision. If educators are sincere in their concern for the gifted, talented, and creative, they must provide these students a model for perceiving their completeness.

Students need to be provided a framework for viewing themselves. Seven sides of symmetry may constitute an approach in self-concept development. Too often educators view the educational process as something they do to students. Students are seeking involvement and relevance. It is time to involve the gifted, talented, creative students in their self-making and to offer relevant direction for bringing meaning out of what sometimes appears meaningless to learners. Through the seven facets provision is made for the intellectual, physical, moral, emotional, vocational, aesthetic, and social purposes of education. The gifted, talented, and creative could benefit from this paradigm.

You Can't Teach Creative Writing

by

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For the past four years, I have been the only teacher in our ten person English department who teaches that ambiguous course 'creative writing.' Numerous times I have asked, "Just what is this monster known as creative writing?"

This semester I also asked this question to my students and responses included: "It is writing what we want"; "It is writing what we want when you want us to"; "It means being original"; "Everything we write is creative." Just exactly what constitutes creative writing rests a lot on individual teacher and student perceptions. After four years of struggling with the teaching of creative writing and reading a myriad of student papers, I am becoming less tenuous about what is creative and more intrigued with the kinds of situations and feelings which instigate and motivate students toward creative production.

All individuals have creative potential; however, not everything they write is creative. The role of the creative writing teacher is not to tell students what is creative, but to tap each individual's creativity. This can be done by aiding in becoming more sensitive to environment; in seeing the familiar in new ways; and in experiencing personal growth through his/her writing.

In order to achieve these objectives, I utilize three different levels of writing assignments. Through the use of FREE, MINI, and FORMAL assignments the chance to tap each student's creative potential is maximized.

FREE WRITING means just that - no revising, no handing in, and no grading. At the beginning of the semester students are told that, if they wish, a portion of one day a week may be set aside for writing whatever they want for 15-20 minutes. Only two requirements exist: to write for the full time period and to allow one other student to read it. After the writing and exchange period, volunteers share their paper or someone else's with the class. This is optional because many are very personal. I always write with the class and if no one volunteers, I begin by reading mine. Usually this relaxes everyone and lets them realize my doubts, fears, and feelings are similar to theirs.

Inspiration is usually provided by someone who is in charge of an activity to get the class reflecting, wondering, and then writing. I do the first week to give them the idea of how free writing operates. Reading poetry, playing a record, and even tap dancing, after mistakenly telling one class how I was fulfilling a long-time dream by taking tap in adult education, are methods of inspiration I have utilized. My anxiety over tap dancing, which prompted two weeks of nightly practices, established real empathy for how students often feel about presentations.

After the first week, whether or not the class has free writing is contingent upon a student volunteer to provide inspiration. After four semesters of this procedure, a week has not passed without a volunteer (or draft from the class). Some students even ask to do it twice or three times in a semester.

One extremely clever inspiration was provided by a girl who brought in fortune cookies and asked each student to take one, read the fortune, write about him/herself in relation to the fortune, and yes, eat the cookie. On this day many students wrote beyond the set time, and we had more volunteer readers than ever before. The inspiration was directed, yet open-ended enough to allow each student to adapt it to his/her own thoughts and mood. It was a valuable free writing day for everyone.

A colleague of mine has developed a personification exercise which would serve as an excellent inspiration for free writing. During Bicycle Safety Week he had the students imagine they were a bicycle. They were to describe themselves and then elaborate on how they felt when left out in the rain, moving through sand, riding on a hot pavement, getting a new shot of air in the tires, or having too many passengers. This activity has students build sensory images and perceive a situation at the feeling level and could be adapted in numerous ways for use in free writing.

Free writing is an effective method for tapping hidden creative potential. It is volunteer and can be eliminated whenever the class desires; it is flexible and can occur on any day although a set day has its advantages; it is student-run which makes not only the volunteer, but the whole class assume responsibility for the weekly twenty minute time period; it is ungraded so students concentrate more on how they feel than on mechanics; and finally, it is a way to have students become cognizant of their own wealth of special gifts, talents, and feelings.

MINI-WRITING, which is somewhat more structured, is designed with two objectives in mind: to enlighten students to the magic in their daily lives, getting them out of the classroom and into different surroundings, and to have them respond to that magic through various writing forms (i.e., description, poems, essays, etc.) for different audiences. Done on a weekly basis, these are collected and returned with comments on the ideas only.

One mini-writing activity requires students to bring a blanket, find an area outside the school, and surround themselves with the blanket. For 15-20 minutes students sit (not sleep) and tune themselves to the sensory

images around them as well as inside themselves. They are to jot down any ideas, fragmented or complete, which occur to them. As a result of this time-out to realize daily magic, they might develop an abstract poem on the value of time or a specific poem on the beauty in a blade of grass, an essay on isolation or their private moments, a description of ter years in a prison cell, or a short story on a mountain man who is self-sufficient.

Another mini-writing activity asks students to go through magazines which have been accumulated for classroom use and cut-out 20-25 phrases from ads which catch their eye. These are the only instructions given until everyone has collected phrases. Next students are to use 15-20 of the phrases and develop a short story, poem, or essay for a certain audience. Students may use their own writing to facilitate transitions, but not more than half of the work should be their own words. This activity provides students with some hands-on materials to manipulate and keep in front of them. This is an aid to those students who have difficulty choosing from all possible topics in their realm of experience; yet, it leaves room for others to discover new comparisons and associations. Students share their products with the class and often incorporate oral interpretation and creative dramatics.

Sydney Parnes emphasizes incubation, the time to let ideas function and illuminate, as crucial to creative thought.[1] Mini-writing operates on this idea. After creating situations which allow students to sensitize themselves to their environment, they are encouraged to reflect and incubate and then write about the experience in an organized manner.

FORMAL WRITING, reiterates the objectives of opening students to the magic and wonder in the familiar and allowing them to respond to that wonder in various forms for various audiences, but also emphasizes organization, clarity, mechanics, and revision. Formal assignments have stricter deadlines and receive a split evaluation for idea and mechanics. Although typical of most English composition assignments, the emphasis is on initiating unique situations which unleash that creative potential in all students. "What if. . ." questions such as "What if the sun didn't come up tomorrow?" or "What if you lost your eyesight?" are usually unsettling enough to initiate creative thoughts.

Two formal assignments have yielded very creative products. The first is a hands-on exercise which has the students dig into a large grocery bag of items and randomly choose four. Objects included in the bag might be toothpicks, spaghetti, nails, dice, an old sock, etc. The assignment is to develop a short story, poem, article, etc., which has a narrator other than themselves and which unobtrusively weaves the four objects into the writing. Students are reminded that their objects may be used as different parts of speech (i.e., die and sock may be either nouns or verbs). Students

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1 Sydney J. Parnes and Harold F. Harding (Editors) A Source Book for Creative Thinking, New York: Charles Scribner' Sons, 1962.

must see new associations between unlike items and view the situation from someone else's perspective, thus widening visions of life around them.

The second, and one of the most exciting formal assignments I give, is a travelogue. Beginning with a series of family pictures or magazine clippings, students put together a real or ficitional travelogue and present it to at least five people in the class. This assignment is always a delightful surprise to me. Originally conceptualized as a real account of an actual family trip with emphasis on organization, transitions, and description, the first time it was given more than half the class did not have family pictures and asked if it could be fictional. The results have been fantastic.

Narrowing the length and distance of the trip and choosing a narrator are processes with which students have had to be concerned. One student was a travel guide for the elderly on a completely fictitious tour to a fictitious castle where a fictitious king lived centuries ago. His details were so convincing that no one in the class guessed it wasn't based on fact. A girl was a guide selling backpacking trips in Glacier National Park. Based on her own backpacking experiences and reading she had done on Glacier, she created an eccentric mountain type narrator, came armed with slides and dressed in a western outfit with cowboy hat the day of her presentation. The whole class wanted to sign up for her tour! Formal writings, if they create situations which inspire creativity and enthusiasm, make the added demand of clear organization, mechanics, and revision less tedious.

Creative writing cannot be taught by a ten-step formula, but it can be inspired through a variety of kinds of assignments like FREE, MINI, and FORMAL which awaken creative potential. The various levels of writing assignments discussed here are proof that we, as creative writing facilitators, can conquer the apathy, defeatism, and reluctance of most high school students and watch their creative products evolve.

Identifying and Nurturing the Intellectually Gifted*

by

Julian C. Stanley

Dr. Stanley describes his Johns Hopkins program of radical acceleration for gifted math students. It is clear, he says, that acceleration is more desirable than most forms of enrichment.

The main point of this article is that most of the supplemental educational procedures called "enrichment" and given overly glamorous titles are, even at best, potentially dangerous if not accompanied or followed by acceleration of placement in subject matter and/or grade. To state it more simply, for highly precocious youngsters acceleration seems to me vastly preferable to most types of enrichment. This appears to be especially true where mathematics and mathematics-related subjects are concerned.

But what do I mean by "enrichment" and "acceleration"? Unless we agree on the differences between such processes, my points may be obscured in the minds of those who consider enrichment to be a form of acceleration and acceleration as being enriching. To me, enrichment is any educational procedure beyond the usual ones for the subject or grade or age that does not accelerate or retard the student's placement in the subject or grade. Admittedly, some ambiguity remains after this definition, because it does not tell what is usual for the subject, grade, or age. Illustrations of four types of enrichment may produce better agreement.

One of these forms of enrichment -- unfortunately, it is quite commonly used -- is what might be termed busy-work. It consists of more of the same, greater in quantity than is required of the average student in the class but no different in level. One of our most mathematically precocious boys, an eighth-grader with an IQ of 187 who had already skipped a grade, was required by his Algebra I teacher

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* Based on "The Case for Extreme Educational Acceleration of Intellectually Brilliant Youths," Gifted Child Quarterly, Spring 1976. Vol. 20, No. 1, pages 66-75 and 41, reprinted (slightly changed) as "Identifying and Nurturing the Intellectually Gifted" in the Phi Delta KAPPAN, November 1976, Vol. 58, No. 3, pages 234-237, by permission of the author and of Dr. John Curtis Gowan, Editor of the Gifted Child Quarterly.

to work every problem in each chapter rather than just the odd-numbered ones. He could have completed the whole course with distinction in a very few hours without needing to work many problems, but his teacher was trying to hold him for 180 50-minute periods. It is a pity that at the beginning of the school year he was not allowed to take a standardized algebra test, learn the few points he did not already know, and move on to Algebra II within a few days. At the end of the seventh grade, a boy less able than he scored above the 99.8th percentile on a standardized algebra test (missing only two items out of 40) without ever having had the course called "algebra." Another boy, more brilliant than either, scored 40 out of 40 when still a seventh-grader. These are not typical youngsters, of course, but in three years of math talent searching in Maryland we have found more than 200 others rather like them.

There is a happy ending to the story of the boy oppressed by busy-work in his beginning algebra course. After the eighth grade he studied all of his mathematics part time at the college level, for credit. This took him through college algebra and trigonometry, calculus, advanced calculus, and linear algebra with an initial B and subsequent As. He also completed an introduction to computer science in the Johns Hopkins day school with a grade of A at age 12. Furthermore, he completed college chemistry through two semesters of organic chemistry with As. At age 15 years and two months he became a full-time student at Johns Hopkins, having sophomore status because of 39 credits already earned and living happily in a dormitory. As an electrical engineering major he completed the first college year with eight As and only one B and finished the junior year at age 16.

Though this boy did manage to turn the usually stultifying effects of busy-work into great motivation to detour further such obstacles and forge ahead, it would be difficult to make a general case for this type of enrichment.

A second type often used is what I shall term "irrelevant academic enrichment." It consists of setting up a special subject or activity meant to enrich the educational lives of some group of intellectually talented students. It pays no attention to the specific nature of their talents. If the activity is, for example, a special class in social studies, it may be meant for all high-IQ youths. The math whiz may enjoy it as a temporary relief from the general boredom of school, but it will not ameliorate his situation in the slow-paced math class. It may be essentially irrelevant to his main academic interests.

My third type of enrichment, "cultural," might also be considered irrelevant to the direct academic needs of intellectually gifted students, but it seems much more worthwhile. The special social

studies class already used as an illustartion of irrelevant academic enrichment merely introduces earlier what should, in a good school, be available at a later grade level. Cultural enrichment means supplying aspects of the performing arts such as music, art, drama, dance, and creative writing or offering systematic instruction in foreign languages before it is usually made available. This can serve the unmet needs of many students, however, not just those with high IQs or special intellectual talents such as great mathematical reasoning ability or superb mechanical comprehension. Nevertheless, if supplied specifically for those students talented in one or more of the performing arts or in languages, cultural enrichment becomes merely a type of "relevant enrichment," which I describe next.

If a student is given advanced material or higher-level treatment of in-grade topics in areas of his or her special aptitudes, the enrichment might be said to be "relevant" to those abilities. For example, mathematically abie youths might have a unified, integrated modern mathematics curriculum from kindergarten through, say, grade 7, in lieu of the usual mathematics sequence for those eight grades. This could be splendid, but imagine the boredom that would surely result if as eighth-graders such students were dumped into a regular Algebra I class.

If the special mathematics curriculum extended from kindergarten through the twelfth grade, it would be crucial that students completing it well should not begin in college with the standard introductory mathematics courses there. The same considerations apply in English, science, or social science curricula. The more relevant and excellent the enrichment, the more it calls for acceleration of subject-matter or grade placement later. Otherwise, it just puts off the boredom awhile and virtually guarantees that eventually it will be more severe.

Thus in my taxonomy there are four main types of enrichment: busy-work, irrelevant academic enrichment, cultural enrichment, and relevant academic enrichment. All of these except cultural enrichment may be viewed as horizontal, because they are usually tied closely to a particular grade or narrow age range and are not meant to affect the age-in-grade status of the participating students.

Bu contrast, academic acceleration is vertical, because it means moving the student up into the higher school level of a subject in which he or she excels, or into a higher grade than the chronological age of the student would ordinarily warrant. If a seventh-grader is allowed to take algebra, usually at least an eighth-grade subject, that is subject-matter acceleration. If a student is allowed to skip a grade, that is grade acceleration.

Often these two types of acceleration should go together. For example, if a high school student scores well enough on the calculus test of the national Advanced Placement Program, he (or she) will earn quite a few credits that would be accepted by many colleges. At Johns Hopkins he would be ready to take advanced calculus upon entry; he would also have 27% of the credits needed to complete the freshman year. Passing three or four Advanced Placement courses will give sophomore status at a number of colleges such as Harvard.

Entering college before completing high school is another example of grade skipping. We helped a boy who was only 11 1/2 years old to become a full-time college student, quite successfully, at the end of the sixth grade. He skipped grades 7 through 12. Two 13-year-old boys entered Johns Hopkins right out of the eighth grade. A 14-year-old enrolled at the end of the ninth grade. Another 14-year-old enrolled as a college sophomore after skipping four grades. He is scheduled to complete the B.A. degree a few days after his seventeenth birthday. It will be illuminating to see in some detail how he accomplished this remarkable speed-up.

We first heard of this boy, whom I shall call Sean, in the fall of 1971. As a sixth-grader whose twelfth birthday came that December 4, he was rather old in grade. According to local rules, he could have been a seventh-grader, but his parents had moved to Baltimore from another section of the country that had more restrictive entering regulations. Sean had greatly impressed the teachers in the elementary school he attended, so during the summer following the fifth grade he participated in a special computer science project conducted by the Maryland Academy of Science. Through local newspaper publicity the academy heard of our new programs for mathematically precocious youths. It recommended Sean to us, thereby making him the first participant in a five-year study funded by the Spencer Foundation, although before the study began we had enrolled two 13-year-olds as regular freshmen at Johns Hopkins.

Sean proved to be exceptionally able both quantitatively and verbally, but especially with respect to mathematical reasoning ability. He had not yet learned much mathematics, however. For example, he did not know the rule for dividing one common fraction by another (that is, invert the second fraction and then multiply), but learned the rule and its proof quickly -- as Professor Higgins said in My Fair Lady, "with the speed of summer lightning."

Sean was not in a high enough grade that year to enter our first mathematics competition, which was restricted to seventh- and eighth- and underage ninth-graders. It was not until we formed our first fast-mathematics class in June, 1972, that he, then 12 1/2 years old, began to get special educational facilitation from us.

The story of that class is told in Chapter 6 of our Mathematical Talent book, which appeared in 1974 and covered the background and first year of the study. The class continued until August, 1973, and Sean was one of its two stars. He completed 4 1/2 years of precalculus mathematics well in 60 two-hour Saturday mornings, compared with the 810 45- or 50-minute periods usually required for Algebra I through III, plane geometry, trigonometry, and analytic geometry.

Sean skipped the seventh grade, which in Baltimore County is the first year of junior high school, and in the eighth grade took no mathematics other than the Saturday morning class. Also, during the second semester of the eighth grade he was given released time to take the introduction to computer science course at Johns Hopkins. He found this fascinating and at age 13 readily made a final grade of A.

While still 13 years old, Sean skipped the ninth and tenth grades and became an eleventh-grader at a large suburban public high school. There he took calculus with twelfth-graders, won a letter on the wrestling team, was the science and math whiz on the school's television academic quiz team, tutored a brilliant seventh-grader through 2 1/2 years of algebra and a year of plane geometry in eight months, played a good game of golf, and took some college courses on the side (set theory, economics, and political science). He even successfully managed the campaign of a 14-year-old friend for the presidency of the student council. This left time to prepare for the Advanced Placement Program in calculus and, entirely by studying on his own, also in physics. He won 14 college credits via those two exams.

During the summer after completing the eleventh grade, Sean took a year of college chemistry at Johns Hopkins -- as usual, earning good grades. That enabled him to enter Johns Hopkins in the fall of 1974 with 34 credits and therefore sophomore status. He lived at home and commuted to the campus with his mother, who took a position at Johns Hopkins in order to make this easier (14-year-olds aren't permitted to drive automobiles, no matter how far along in college they may be). During the first semester he took advanced calculus, number theory, sophomore physics, and American government, making As on the two math courses and Bs on the other two courses. Also, he began to get involved in campus politics. He got along well socially and emotionally. As he told an Associated Press reporter who asked about this, "Either social considerations take a poor second to intellectual ones, or there are no negative social effects. . . The most significant aspect of my life is having skipped grades."

Let us recapitulate here. Sean began by being "enriched" in the Academy of Science summer program for brilliant elementary school pupils. That served as a good background for the college course in computer science, which was intended to be both enriching and accelerative. The fast-mathematics class provided radical acceleration, because it telescoped into one year of Saturday mornings 4 1/2 years of precalculus mathematics. Skipping four grades was also highly accelerative, as were the college courses taken and the Advanced Placement exams passed.

Sean is unusually bright, of course, and extremely well motivated, but he is by no means the ablest youth we have found. He has done the most different accelerative things, however. By contrast, another mathematically and verbally brilliant boy simply took a college course each semester or summer term from age 12 to age 15. Besides that, he skipped the second, eleventh, and twelfth grades. This combination of college courses and grade skipping enabled him to enter Johns Hopkins at age 15 years 2 months with 39 college credits -- that is, 30% of the way through the sophomore year. Another boy skipped grades 8, 11, and 12, took 17 credits of college courses, and earned eight college credits in calculus via the Advanced Placement exam. In the fall of 1974 he entered Johns Hopkins at barely 15 years of age with 83% of the freshman year completed.

Many students in the study, including some girls, are <u>eager</u> to move ahead faster than the usual age-in-grade lockstep. They do so with ease and pleasure. We find that the combination of great ability and personal eagerness to accelerate educationally virtually guarantees success. Nearly all of our 44 early entrants to college thus far have done very well in their studies and social and emotional development. Only one performed poorly initially, and even he improved rather soon. This brilliant but headstrong 14-year-old had signed up for a heavy load of difficult courses and then would not study enough during his first year of college. Compared with the academic and personal record of the typical Johns Hopkins student, the early entrants have been truly outstanding.

Perhaps our most interestingly different course has been college calculus for two hours on Saturday mornings to supplement high school calculus, so that students can do well on the higher level of the Advanced Placement calculus exam. With a class composed mainly of well-above-average tenth-graders, but with one student only 11 years old, this went along so well from September, 1974, until February that by then everyone in the group knew more calculus than most college students learn in two semesters. By early May only nine college students in 1,000 score higher than the lowest-scoring one of the 13 students in this class -- and that wasn't the 11-year-old! All of

these special students scored excellently on the higher level (BC) of the national Advanced Placement Program examination in calculus in May, 1975, and earned a year of college calculus credit. Nine of them earned the highest score reported -- that is, five on a five-point scale, meaning "extremely well qualified to enter college Calculus III." Three earned fours, and one earned a three. A new class with 23 students began in the fall of 1975. All of them were eleventh- or twelfth-graders, some as young as 15 years old. They too, did well.

Recently we had an extreme example of what powerful predictors of achievement their scores on difficult tests can be for intellectually gifted youths. The mathematics department at Johns Hopkins conducted a test competition for eleventh-graders. We heard about it only a week before the test date and got permission to tell some of our participants. We hastily located the names and addresses of 19 persons who as eighth-graders three years earlier had scored high on the SAT-M in our first talent search. These were not our very best, because most of those had moved along beyond the eleventh grade; several of them were already in college. Of these 19, 10 came for the test. Seven of them had not been identified by their high school mathematics teachers, and one of the three so identified was a member of our calculus class whose father teaches mathematics at Johns Hopkins.

Fifty-one students entered the contest, and their scores ranged from 140 down to 2. One of our group, not nominated by his teachers, was far ahead of anyone else with 140 points. The math professor's son ranked second with 112 points. Another of our group ranked third with 91 points. The highest scorer not in our group ranked fourth with 82 points. The other seven nominated by us ranked down only to 23.5 out of the 51. Isn't it a bit frightening that a single score from a test administered three years earlier identified high math achievers much better than did teachers who have known their students for at least seven months?*

This finding is congruent, however, with Lewis Terman's discovery of many years ago that teachers are not good at identifying students with extremely high IQs. Apparently the math classes simply do not tap the best abilities of mathematically brilliant students, whereas the difficult test does. There's a moral in this for those who lean too heavily on teachers' recommendations where intellectually gifted children are concerned. In selecting early entrants in our study, we pay far more attention to scores on advanced tests and other evidence of marked precocity than we do to

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* For details, see my article, "Test Better Finder of Great Math Talent Than Teachers Are," in Amercian Psychologist, April, 1976, pp. 313, 314.

school grades or recommendations, because most of the high school courses are not pitched at an appropriate level of difficulty and challenge for such students.

It should be no surprise that educational acceleration works well when highly able, splendidly motivated students are given a variety of ways to accomplish it. From Terman's monumental Genetic Studies of Genius and Sidney Pressey's definitive 1949 monograph on Educational Acceleration through the experiences of the University of Chicago, Shimer College, the Ford Foundation's large early-entrance study of the 1950s, Worcester's and Hobson's work, and Simon's Rock College, up to the radical accelerative techniques we are developing, it is clear that acceleration can work much better than so-called academic enrichment for those students who really want it. Counter-examples are rare and likely to be atypical. For every William Sidis who renounces intellectual pursuits because of extreme -- and apparently quite unwise -- parental pressures, there are many persons such as Norbert Wiener and Sean who benefit greatly from the time saved, frustration avoided, and stimulation gained.

We believe that concentrating efforts on preparing "teachers of the gifted" to enrich curricula is, while far better than nothing, a relatively ineffective and costly way to help the ablest student. At least, such teachers should help provide the smorgasbord of accelerative opportunities and counseling in their use that many such students need.*

The procedures that we propose are not expensive. Most of them actually save the school system time and money. One does not need a large appropriation in order to encourage grade skipping, identify students ready to move through mathematics courses at a faster-than-usual rate, encourage early graduation from high school, help certain students enroll for courses in nearby colleges or by correspondence study, promote Advanced Placement exams, or even set up special fast-math courses. More than money, they take zeal and a distinctive point of view.

Persons who hear about our study usually ask, "But what about the social and emotional development of the students who become accelerated?" We often counter with, "What about the intellectual and emotional development and future success of students who yearn for acceleration but are denied it?" For more than six years we have been studying the social and emotional development of youths accelerated in a variety of ways. If the acceleration is by their own choice, they look good indeed. Part of the problem is in the minds of those skeptics who automatically assume that one's social and

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* For more about this, see Daniel P. Keating, ed., Intellectual Talent: Research and Development (Baltimore, Md.: Johns Hopkins University Press, 1976).

emotional peers are one's age-mates. Performance of gifted youngsters, including ours, on such personality measures as the California Psychological Inventory shows that emotionally they are more like bright persons several years older than themselves than they are like their own age-mates. There is considerable variability, of course, but on the average they are better matched socially and emotionally with able students who are older. Thus, just as their intellectual peers are not their age-mates, their social and emotional peers aren't either. For clarity of discourse, it would seem wise not to use the word "peer" in this type of argument without prefacing it with one or more modifiers.

Another question often asked us is, "Why do you start with 12- and 13-year-olds who reason superbly mathematically? That is awfully narrow. Why not be broader?" Well, neither mathematics as a field nor our various procedures is "narrow." Mathematics undergirds many of man's highest endeavors. In a sense, it is probably the most generally useful subject (although, of course, some philosophers would argue about that statement). We try to approach talent in mathematics comprehensively, but we deliberately chose to specialize in this area where great precocity often occurs because one can be brilliant in mathematics without yet having had many of the usual life experiences of an adolescent or adult. Also, because of this precocity, many students in school are horribly bored. Imagine having to serve time in first-year algebra for 180 50-minute periods when one knows the subject well the first day of class! That is by no means an uncommon occurrence, and it may partially explain the lack of interest in mathematics among many bright persons.

My own motivation to help accelerate the mathematical progress of fine mathematical reasoners grew out of my early background. It seems sensible to specialize in what one knows and likes best. Many educational researchers dislike mathematics. Of course, they should concentrate elsewhere.

With more than 2,000 mathematically able boys and girls already identified, we do not have time and facilities to look for latent talent or potential achievers, worthy though that pursuit surely is. We leave that to the many persons who prefer to specialize in identification and facilitation of underachievers, "late bloomers," and the "disadvantaged gifted." Aside from some concern about sex differences in mathematical precocity, we have not tried to screen in a set percent of any group. From socioeconomic and ethnic standpoints, however, the high scorers have been a varied lot.

A well-known quotation from Thomas Gray's famous elegy sums up the case for seeking talent and nurturing it:

Full many a gem of purest ray serene
The dark unfathomed caves of ocean bear;
Full many a flower is born to blush unseen,
And waste its sweetness on the desert air.

Another poet tells us that " . . . a man's reach should exceed his grasp, or what's a heaven for?"

It is our responsibility and opportunity to help prevent the potential Miltons, Einsteins, and Wieners from coming to the "mute inglorious" ends that Gray viewed in that country churchyard long ago. The problem has changed little, but the propsects are much better now. Surely we can greatly extend both the reach and the grasp of our brilliant youths, or what's an educational system for?

GOING DEEPER

THE ENRICHMENT TRIAD MODEL

EMPHASIS ON TYPE III INDIVIDUAL AND SMALL GROUP INVESTIGATION OF REAL PROBLEMS

by

Robert E. Clasen
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* Readers are encouraged to obtain:
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* Joseph Renzulli, The Enrichment Triad Model:
* A Guide for Developing Defensible Programs for
* the Gifted and Talented. (Creative Learning
* Press, 530 Silas Deane Highway, Wethersfield,
* Connecticut 06109), 1977.
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The Enrichment Triad Model was developed by Joseph Renzulli to protect against provisioning for the gifted as a way to avoid programming for them. "Provisioning" is to give an occasional experience to gifted students. It sometimes takes the form of the introduction of a kit -- or of a one shot learning game.

Programming for the gifted to develop a systematic, organized set of experiences which are predicated upon the interaction between what a gifted student is and what the school ought to be. Renzulli argues that gifted students can be characterized as intelligent, creative, and committed to excellence in the area of their gift. They can learn faster, in more depth, and across a wider spectrum than can less talented peers. Because this is so, the gifted need an educational program which is qualitatively different from that program which is offered to less talented peers. The program must be enriched in three ways:

1. TYPE I - General Exploratory Activities,
2. TYPE II - In Group Skill Building Activities, and
3. TYPE III - Individual and Small Group Exploration of Real Problems.

TYPE III activities are the kinds of activities which may be uniquely gifted-child activities. They demand that the students apply the "how-to" of disciplines with general excellence in thinking and

feeling processes to the solutions of real problems, the generation of real products, and independent or small group working-through of a complex set of tasks so as to be able to solve a problem or to develop a product.

TYPE III activities place some unique demands upon teachers of the gifted. Rather than the traditional role of information-giving, the teacher must

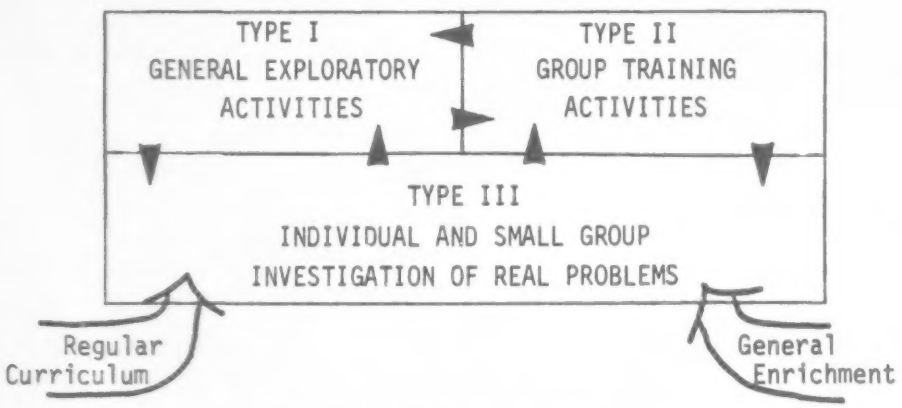
1. Help students focus a generalized interest or tension onto a solvable problem,
2. Help students acquire the skills which their quest will reveal them to need,
3. Help students acquire the materials and resources needed for the accomplishment envisioned, and
4. Help students find real markets for the products of their individual or collaborative efforts.

One way to conceptualize TYPE III activities is to conceive of them as having the characteristics of most good co-curricular (or extra-curricular) activities:

1. They are chosen by the student,
2. They are voluntary,
3. They end in a product or performance,
4. They are focused upon a particular audience.

Interestingly enough, accomplishments in co-curricular activities have been found to be a better predictor of adult accomplishments than have other more traditional measures such as academic test scores.

Among all students, the gifted have the extra power to go deeper. They have the ability to do what is real and to profit from the experience. A wise teacher who can manage projects rather than teach lessons will find that gifted students profit mightily from the opportunity.



THE ENRICHMENT TRIAD MODEL (p. 14)

Going Wider With the Gifted Child

by

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"And. . . . the subject of this novel?"

"It hasn't got one," answered Edouard brusquely," and perhaps that's the most astonishing thing about it. My novel hasn't got a subject. Yes, I know, it sounds stupid. Let's say, if you prefer it, it hasn't got ONE subject . . . 'a slice of life,' the naturalist school said. The great defect of that school is that it always cuts its slice in the same direction in time, lengthwise. Why not in breadth? Or in depth? As for me I should like not to cut at all. Please understand; I should like to put everything into my novel. I don't want any cut of the scissors to limit its substance at one point rather than at another. For more than a year now that I have been working at it, nothing happens to me that I don't put into it--everything I see, everything I know, everything that other people's lives and my own teach me . . ."

Andre Gidé, THE COUNTERFEITERS

Some gifted children are the polar opposite of Edouard. Instead of being open to all of the possible stimuli to learning and achieving, these children have narrowed their attention to one primary interest. Instead of wishing to eliminate the limits of learning and go much broader these children have a single goal that excludes all others.

It is difficult to estimate the percentage of the gifted child population which has started to over-specialize in an interest or an activity at a very early age. If 5% to 8% of our total school population are identifiable as gifted, then possibly as high as 20% of the gifted group fall into this category. Teachers and parents should consciously make an effort to lead these gifted children into other areas of study and continue to expose them to wider experiences than the one they self-select. If they do not, these children will allow all of their time, energy, creativity, and products to revolve around their one focus.

This is a good point for us to share a confession. It is this. The idea that a gifted child has too narrow a focus is ours, the teachers and parents of the child, and not the child's. This brief confession should not deter our efforts to help a child discover subjects or fields that may lead him/her beyond their special one, but it should remind us that some caution and patience should be employed in the method we use.

It is clear that there is no better, or safer time to help a gifted child discover and explore a broader knowledge base than when he/she is very young and a student. If after extensive exposure and serious exploration of other school subjects or activities and meeting people with a variety of life work the child knows that the original, single interest was the proper one, then fine. The child's decision was not made on a whim or in a vacuum.

Being too narrow or over-specialized in a gifted child usually takes one of two forms. One form is for the child to care mostly for some area of motor skills, such as basketball, track, dance, swimming, horseback riding, etc. The other form is when the child has a single cognitive gift and is quite willing to disregard other cognitive or motor areas. These children may excell in math only, reading only, or science only. They are relatively inconspicuous in school. Only the teacher of the favorite subject or activity sees their very able performance. Other teachers might be surprised to learn that these children have any gift at all.

In both cases these gifted children may barely tolerate school activities other than their major interest and often are quite open about saying so. They may even say that the reason some required work is not completed is because it interfered with their doing what they really wished to give all of their time and attention to.

Quite often they are the subject of some confusing discussions in teachers' lunch rooms. One teacher says he/she does not know how to motivate a certain student to do the classwork, turn it in on time, and to take the course seriously. The foreign language teacher may wonder if they are thinking about the same child. He/she never had such a young student show so much promise in language and work so hard on all of the assignments, and always do more than was required. In other words a perfect student in every respect, perhaps even gifted.

Of course these discussions could be between an English teacher and an industrial arts teacher, a coach and a mathematics teacher, or a history teacher and a music teacher, as well.

Our dilemma with this type of child, whether we are a teacher or a parent is whether or not the child should attend some specialty school where the total curriculum deals with the child's giftedness, or attempt to introduce the child to a much broader world of interests in school and the surrounding community. Either of these approaches is reasonable and easily justified. One probably is no more right than the other. The circumstances of financial resources or geographical convenience are the usual determiners.

Consider a boy of twelve who loves to run and is clearly gifted in this motor skill. He runs farther, faster, and with more real ease for his age than any runner his track coaches have ever seen. This boy loves to train. He runs to school, runs home from school, runs during his lunch hour, and runs every chance he gets on weekends. When his parents are returning home with him from a trip he asks them to let him out of the car in Milwaukee and runs the twenty plus miles to his home in Racine. The problem for his parents and his teachers is that he does not want to do anything else . . . just run.

We know a great deal about how to do the wrong thing in trying to get such a child to go wider. We have surely heard someone, perhaps ourselves, say "When your grades in English and math are better you can start running cross-country again, but not before." In almost every case this approach will assure that the boy will hate English and math and be even more convinced whoever has said this understands him less and less. Which is probably true.

What can one do with the child who lives and breathes cross-country? For a beginning that has some assurance of success we can start by accepting the boy's interest and love of that single thing and capitalize on it instead of resisting it. Lecturing and fighting him about life being made up of more than cross-country will seldom win the day with a child who has an overwhelming enthusiasm and an ability to run long distances. A more effective approach calls for a new attitude on our part when we think of the child and his gift. We should keep in mind that there is a great deal that is positive about this single interest. The boy wants to run and is very able at it. He can compete at this and have the real joy of winning and knowing for sure that he has accomplished this on his own. His ability to run a long distance and endure when he knows that many others older, bigger, and stronger cannot do as well is rewarding and enhancing to him, too. We all need to know that we have some special worth that is recognized by others. All of these make a positive impact on his self concept and are as important to him, as a person, as the skill required to run.

Do these experiences and feelings contribute to developing the boy's cognitive skills so that he can solve problems in the future, though? Perhaps not, but they might be powerful helpers, and that is why it is important for his parents and teachers to lead him into other, wider areas, while carefully relating them to this prime motivator.

In the case of this boy there may be a coach or another runner whom he admires and emulates; one the child has listened to and learned from. They are significant other people and may be very helpful in leading the child into wider areas of study and activity. In what subjects are they interested? Biology? Photography? Art? Music? Math? If so, any one of these may be enough for them to start sharing with the child before or after running to whet his appetitie for some new pursuit.

In school we expect him to learn to read, write, speak, and think. A child's single burning interest is a good focus for the leading into wider and wider areas of interest. Inviting him to speak or write of his experiences while running; or his feeling toward those he runs with; or his feelings

about winning or losing could help him to produce some very fine written work or interesting speeches. Asking him to teach his training techniques or strategies in racing to others could help him to get to know other children and to learn of their interests and lead him into wider new interests, too.

The role that is most demanding of his teacher or parent is the one of leading and assisting him in the search for people, places, events, works of art, books, and films related to his gift. This is a new and different role from the one most teachers have been trained to play. A facilitating, directing, leading, and supporting role that is meant to help a child realize that his/her present interest and accomplishment is recognized and appreciated and that it is a worthy threshold for many other equally exciting and related areas.

In every community or within a short distance of every community there are many sources for widening the student's interests and multiplying the chances of him/her meeting other people who can be potential teachers for them. Some of these may lead the student into new and very different areas of genuine interest. The teacher and parents must be creative themselves at picking up the cues of a new interest and incorporating it into some learning ventures for the child. Our main effort should not be to get the child to surrender some special interest, especially when he/she shows real tendencies of giftedness in it. Our motive should be to widen the child's knowledge and experience base, so he/she can have more information to use in making judgments about areas of interest for now and the future, and to become a better evaluator and problem solver of the many issues that will compete for his/her attention.

It is much better to lead the child into wider interests outside the school related to his/her broad development than to have them drop out of school altogether at the age of 16 or 17, saying, "I have to get out of here. There is so much I want to learn and there must be someone, somewhere who can teach me what I need to know."

Some of the sources for helping to give a child a wider knowledge and experience base are:

Nearby Colleges and Universities. Some of the college faculty may have children in your school and would be very willing to assist in some special activities on their campus for a gifted child. The cultural events, sports events, laboratories, media production facilities, and recreation areas are all potential sources for widening the very narrow interest of a child and lead to discovering new ones and people to assist in leading the child to broader skills.

Area Industries. Industries are like cities unto themselves. They often have their own police force, own fire department, own medical staff, own food service, and in some cases their own recreation areas. There is a wide range of talents and careers represented in almost every industry, too, such as inventors, engineers, chemists, architects, artists, model builders, advertising specialists, plant managers, and operators. Quite often a sense of collaboration between all of these people with special skills helps a

child find areas of interest that touch his/hers. They may cause him/her to seek out others with whom he/she is eager and willing to cooperate.

Local Libraries, Museums, Art Centers. All of these have as their mission the inspiration and service to children, especially to children with exceptional gifts and talents. The books or objects they house are the products of gifted and talented people. The adults who work in these places are often gifted or talented in some area themselves and will be glad to share their interests and time with a child who is ready to go on beyond the school's materials or the abilities of a teacher. Due to the system of organization of materials in these types of places a gifted child may be able to place his/her special interest into a much larger perspective. He/she may discover the relationship between his/her interest and areas that are displayed on either side of it. Sometimes these relationships will have not occurred to the teacher or the child.

Professionals in the Community. Photographers, Artists, Doctors, Lawyers, Ministers, Bankers, Presidents of Corporations are all possible useful adults to meet a gifted student, to exchange ideas with him/her and share interests. Many of these people are gifted in their own right and will be pleased to assist in the education of a child in a way that only they can and in a way that the school classroom or a single teacher cannot.

Talented Parents and Other Students. The parents of school children and some students in the upper grades are a source for additional human resources to assist a teacher in widening a child's interests. Discovering who they are and cataloging some information about them and making arrangements of time and place for work with your student can consume a lot of the teacher's time and energy. However, that can be very rewarding for a child who feels especially alone or strange with his/her gift or talent. School organizations such as the parents organization, or local service clubs may be able to assist with the contacts and arrangements.

There should be a refrain that reminds us that there is nothing seriously wrong with a child who has a single extraordinary interest or skill. In fact it is most natural! The point is that it is helpful to the child and the teacher to use that burning interest or skill to lead into other wider avenues for growth and insight.

There are two very special gifted girls in a comic strip entitled, "Priscilla's Pop." One of the girls is Priscilla and her single interest is horses. She dreams about horses, has a saw horse for a playmate, and is constantly expecting to receive a horse as a gift. She knows all about horses and their habits, types, and care. She possibly knows more about horses for a child of her age than anyone you have ever met; even children who have had the good fortune to grow up where horses are raised. Priscilla is a city girl, of course.

The other girl is Hollyhock, Priscilla's neighbor, and her ambition is to set new records in checking books out of the library and reading them. She reads with a vengence. She reads about foreign countries, culture,

biography, history, and art. Her library card is her single most prized possession. She probably has checked out and read more books from the public library than any other child her age.

When Hollyhock and Priscilla are together it is clear that they do not understand each other, nor do they appreciate each others talents. Their dismay with each other over their dreams and future ambitions is a significant portion of the humor in the comic strip and represents very well the comic part of people who are extraordinarily single purposed and narrow in their interests or skills.

Priscilla: "Some day I'll have a real horse, Hollyhock. And my own spread out in Montana."

Hollyhock: "I'll miss you Priscilla."

Priscilla: "Why don't you go West too. You could start your own library. Every night I'll ride into town to visit you."

Hollyhock: "What a grand idea."

Priscilla: "I can just see me galloping my pinto across the prairie."

Hollyhock: "Just don't let him track mud on my clean library floor."

from Priscilla's Pop by Al Vermeer

Stereotypes, like Priscilla and Hollyhock are fun and useful in a comic strip, but real live children should be more than one-dimensional. It would be better for them if each had some of the other's skills. Their knowledge base and experience would be wider and they would be more effective in terms of play or problem solving in the area of their giftedness. The real problem is that the girls are not likely to acquire the new breadth from each other without some leading. What would you do if they were in your classroom or home?

The ideal time to lead him/her into wider areas of interest is while the gifted and talented child is in school. It may mean going beyond the classroom into the surrounding community to develop skills other than the one they display so conspicuously well. It may require other special efforts, but the gift is worth it.

Reflections on Creativity

by

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Creativity is difficult to grasp. Basically it is viewed as a process which produces new or unique ideas. Many experts have attempted to define it, analyze it, and dissect it, all in an attempt to explain its origin and to define its parameters. The present paper is one more look at this illusive concept.

Visualization

There are few important variables to serve as guiding principles for creativity. One principle that may be quite important for creativity is an individuals ability to visualize objects. The importance of visualization has been established as a result of research with hemispheric specialization. In this research it has been found that the left hemisphere of the brain controls linear analogic thought, thought which is systematic and orderly. The right hemisphere of the brain, by contrast, controls abilities to deal with difuse, nonlinear, sensual, holistic concepts. Visualization appears to be a process which facilitates operation of both hemispheres. When persons perceive something, they want to label what they perceive. If they perceive it as an image and attach words to it, the words they use originate in the left hemisphere. The picturing process starts in the right hemisphere. The message is sent across the corpus callosum to the left hemisphere and at that point words are used to describe what was sensed. Visualization originates in the right hemisphere. By learning to use visualization greater use of the right hemisphere is possible. In creativity, visualization provides a vehicle for the productive use of analogies and metaphorical thinking. Both can be highly creative outlets; both expand an individual's creative potential.

The Mind as a Computer

Mario Conforti (1970), a psychologist, wrote an article in which he related the mind to a computer. In his analogy he conceptualized the mind as having two primary components, one conscious, the other subconscious. Conforti suggests that there are four functions of the conscious element. Perceiving inputs through the senses, making interpretations of what is perceived, evaluating data, (either from the environment or from its storage systems) and making decisions are all conscious functions. By contrast, Conforti suggests two aspects of the subconscious. First the subconscious serves as a data storage system. Conforti states that the subconscious mind is quite efficient in storing information, suggesting that the brain houses ten billion memory cells each capable of storing one hundred thousand bits of information. It is not clear how Conforti knows how many bits of information could be stored in each one of the cells or how many cells there are but it is reasonable to believe that the subconscious part of our minds does have a great storage capacity and that things consciously perceived are stored in the subconscious element. The second half of the subconscious according to Conforti is the autonomic system which controls functions such as heart beat, blood pressure, and glandular responses.

In this system Conforti suggests that as we perceive something, we immediately compare the perception to the environment and also to stored experiences similar to the precipitating experience. Based upon stored experiences an interpretation is made. The interpretation is then, evaluated and a decision made. This process is important. All individuals have great amounts of experience and stored knowledge. To learn a system for retracting or pulling back information that is in a storage capacity seems to be the

problem. One of the ways that can be used to get at stored material is through the process of visualization. If something is pictured vividly, an individual will recall all the sensations, emotions, and feelings that were present when the original bit of information was stored. To emphasize this point allow yourself to picture the following scenario.

> A friend is approaching. In his hand is a lunch bag. He asks you to reach into the bag. You do. As you reach into the bag you feel something round and firm. Pull the object out of the bag. Look at it. You find that you are holding a lemon. Now take the lemon in your left hand. With your right hand take a knife and cut the lemon in half. Take one half of the lemon, hold it up. Bite into it---let the juice stay in your mouth----.

If you allowed yourself to picture this scenario your reaction was probably a pursing of the lips, a tightening of the jaws and sort of tightening of the tongue. All of this would occur because of the picture formed. Through the process of visualization one can recreate physiological reactions consciously that are a result of ideas, feelings, images that are stored in your subconscious. By using Conforti's system or Conforti's analogy, one can tap the subconscious through the process of visualization.

Visualization provides one element that must be considered if creativity is to be enhanced. Other elements must also be considered.

Obstacles to Creativity

Al Simberg wrote an article, "Obstacles to Creative Thinking", that was based on his 1964 book, Creativity in Work. He suggests a number of different blocks to creative thought and offers that one of these blocks is cultural in nature. He states that we learn through our cultural conditioning to block our own creativity. For irstance, a policeman walking down the street

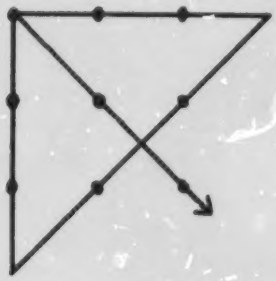
hearing the shouting, "Oh, no, Charlie, don't shoot; don't shoot, Charlie," hears the firing of a pistol, runs into the appropriate building, sees a corpse laying there with three people standing near the dead figure, looks over the three and immediately selects the guilty party. One individual is a milkman, one a doctor and one a lawyer. How did the policeman know which one of the three people was the guilty person? To arrive at an answer to this particular problem one must first overcome cultural bias. In this particular sequence, the milkman is the only person that must be a male. When coupled with the statement, "No, Charlie, don't shoot" it becomes obvious who the guilty party is. It is highly conceivable that the doctor and the lawyer are both females but in our society we have been culturally conditioned to believe that doctors and lawyers are not females. Our beliefs frequently prevent us from solving rather simple problems.

Simberg suggests a variety of exercises which make points that are highly relevant. The following one doesn't come out of his work directly, but it was initiated as a result of reading his material. He suggests, for instance, that we have to get away from our normal point of reference. Sometimes what we consider to be the way to solve a problem prevents us from finding a solution. Based on this idea, attempt to write this very simple sentence. Write, "There are three tos in the English language." Now if you try to write "There are three 2's in the English language," you immediately find out that the word to becomes a problem. Which to is the one you write? Do you write to? Do you write too? Or do you write two? No matter which one you write you are going to be wrong because there are not three toos in the English language, nor are there three twos in the

English language nor are there three tos in the English language. To write the sentence one has to get away from standard form. One could write the sentence phonetically. There are three tu's (phonetic spelling of tu's) in the English language. Simberg stresses that we have to get out of our normal way of thinking about problems. A second example from Simberg's work makes a different point. If I were to write the block letter A, draw a straight line under it, take the letter B and ask you if it should go above or below the line, how would you respond? The B goes below the line. Where then does the letter C go? Above or below the line? It goes below the line. What about the letter D? Above or below the line? D goes below the line. The letter E? E goes above the line. You should start seeing some relationship between the letters and their relative positioning. The next letter will be the letter F. It will go above the line. Where will the letter G go? The letter G will go below the line. As you start looking at these you should start to realize that all letters which are formed from straight lines are above the line. All letters that are formed by curved lines are below.

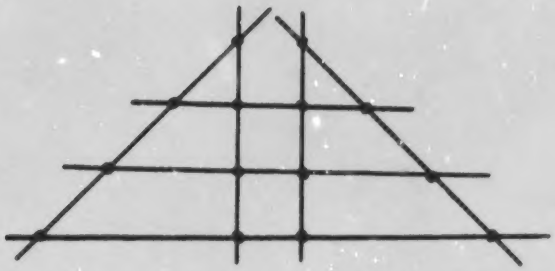
Simberg would suggest that many times a problem is presented in such a way to us that we have difficulty in not investigating the obvious, that we don't see what is right in front of us. He suggests that many times we try to conform to a standard pattern, that we have patterns in our head and that we fit things into these patterns. An example that illustrates this follows. Suppose you were given three rows of three dots forming nine dots.

Your task is to draw four straight lines that go through every one of the dots. Your pencil can cross lines but it cannot retrace lines. The only problem is that once you start drawing you cannot lift your pencil from your paper. When finished, you should have covered every dot. To arrive at a solution for this particular problem, a person has to see nine dots and not the square that they seem to form. The square only exists in one's mind. If you stay within that square you cannot solve the problem. In fact, there is no square. The only square that exists is the square formed by your own perceptions of the nine dots. You have to extend the lines beyond the boundary of the nine dots. In doing so you can find a solution to the problem. Adapting ourselves to an adapted pattern prvents us from solving this particular problem.



Many times we have too much faith in reason or logic. Some problems are more difficult if you maintain the idea that everything has to be logical or reasonable. An example of this is if you were asked to arrange fourteen pennies in seven rows of four. If you multiply seven times four you get 28, wherein there would not be a way that fourteen pennies would work. You have to go beyond logic and realize that some of the pennies in some of the rows are going to be used in more than one way. Each penny will be used more than once or will appear in more than one row. The first step in solving the

problem is to break down the reason or logic based on mathematical multiplication.



Simberg has numerous points that he makes with exercises like these. I would suggest that a person interested in this area turn to his 1964 Creativity at Work.

The Creative Process

In trying to understand what happens in the creative process, the research of many people has been examined. Alex Osborn proposes a "green light technique." He suggests two important variables. Osborn states that creative persons must have an open mind; that they can't censor their thoughts. Rather, they must let their imaginations soar and be willing to free-associate. The second step in Osborn's process is that of evaluation. He suggests that once ideas have been produced, individuals should evaluate and save those with merit.

S. J. Gordon in his book Synectics (1961) says that we have to use images from our subconscious and have to be willing to use metaphors and analogies in order to solve problems. Bob Samples in the Metaphoric Mind (1976) would agree. Somebody like Sokorski who is renowned for development of the helicopter probably watched dragon flies or hummingbirds in order to

perfect concepts underlying this unusual aircraft. In like manner, observation of bats led to creation and perfection of radar while research with porpoises led to refinement in sonar technology. It is evident that the environment provides a rich source for creative analogies.

To be creative one must have an attitude of openness. Jerome Bruner (Parnes, 1962) has stated that a proper mental attitude provides conditions for receptive visualizations, and that the potential for productive use of visualization is dependent upon certain key elements. Bruner suggests that a person has to have a certain sense of detachment, committment, passion, decorum and freedom and, although anxious to find a viable solution, be able to defer immediate gratification.

Elliott Hutchinson (Parnes, 1962), from a slightly different perspective, suggests that individuals have to be able to anticipate the satisfaction of success. They must develop a feeling of what success is going to be before it occurs. They have to believe that they can achieve and also believe that they will get an answer. Hutchinson also states that rest is an essential ingredient when you feel defeated. Rollo May (1975) in his recent book, The Courage to Create, reinforces this idea when he suggests that we have to turn off our conscious thought and let our subconscious do its work, knowing that the subconscious will work best when in a relaxed state.

Sidney Parnes (1962) ties together works of many of the previous individuals mentioned. He suggests that for creativity to function one has to have needs, one has to be working towards something, one must have a goal in mind. Once a goal is established preparation is needed. Creativity does not happen in a vacuum. Creativity happens from hard work. Hard work is based upon adequate information, adequate preparation. Once information is

gathered consistent with the established goal an individual should allow ideas to simmer or incubate. Parnes suggests that incubation is a highly creative process. What is happening in incubation? Instead of the left hemisphere doing its work in a logical, analytical way incubation allows the right hemisphere to be productive through holistic functioning. This is consistent with Conforti's model in which he suggests that the subconscious can provide creative answers.

The fourth step in Parnes' process is one which individuals really have no control over; one that will happen once the subconscious has a chance to deal with the information that it has been given. This step is labeled illumination. The illumination stage is the point in time when the idea strikes. Once the idea presents itself an individual can move on to the final step, validation. Validation is the conscious testing of the idea to determine its worth.

Classroom Applications

How can these ideas put forth by Parnes be used in a classroom? First of all, the incubation period is something that educators don't usually build into academic settings. For instance, if an English teacher were going to give students a creative essay to write he/she might suggest to them that tomorrow or next week they were going to write an essay on a particular topic. The teacher might suggest that "I don't want you to write on the topic now but I want you to think about the topic and prepare to write about it." It is much more productive to give students time to work on a topic, both consciously and subconsciously, than expecting them to give an immediate creative response to a stimulus. There is no time for incubation in the latter situation. The product that could be expected

would be consciously based (left hemisphere) and would not as adequately reflect the plethora of information available subconsciously (right hemisphere).

Secondly, educators should help students practice the process of visualization. Through this process individuals can release much of their creative thought and visualize different ways of solving problems. Visualization is a productive way of tapping subconsciously stored materials.

Besides use of incubation and visualization, educators should provide a system for creative activity. An attitude that answers are neither right nor wrong, only different, must be generated. Negative responses to creative attempts diminish both the quality and quantity of response.

Educators have to be specific in goal setting. They have to make sure that students know what it is they are working on, and then to foster creativity, they should use questions that are open, that are incomplete, ones that have had no previous answers. For instance, teachers might ask questions like "What would happen if water didn't freeze?" or "Using the number 0 - 9 find as many ways as you can using three digits at a time to arrive at the number eight." "Construct a pyramid sentence such as

I
am
the
best

in which each succeeding work is one letter larger than the preceding word and yet the total sentence is a complete thought." Or finally, "What might happen if the world population triples by 1985?" In each of these examples there is no one right answer. Students should be allowed to generate a variety of answers or possibilities of answers. By acting as if they believe

that individuals have creative potential, educators can help students develop their ability to tap both their conscious and subconscious reservoirs. The outcome will be good education resulting in creative and productive students.

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Maximizing Creative Potential

by

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Two roads diverged in a wood, and I
I took the one less travelled by,
And that has made all the difference.

Robert Frost

Creativity is akin to love; the capacity for it is present in all babes at birth. However, the environment determines whether or not this potential is realized.

It is assumed here that any behavior can be taught and anyone can learn to be more original and creative. Schools, therefore should be able to maximize children's creative potential. Frequently, however, the result of conventional education is "uniformity of behavior and expression, death of individuality, docility, passivity and conformity" (Moustakas, 1969) rather than creativity.

If children start life having the potential to be creative and if creativity can be learned, why isn't it exhibited by all? The answer may be, to paraphrase Pogo, "We has met the enemy and it is us." The primary reason that all children are not creative is that teachers, peers, and parents do not support creative activities.

Socialization, although a worthy goal of education, can promote or destroy creativity. If teachers are against creativity or its aspects, students will follow their model; they will help to supress creativity. On the other hand, if the teacher promotes creativity in a noncompetitive way, the peer group will also support it, or at least they will not be so vociferous in trying to destroy it.

Why don't teachers try harder to maximize creative potential? Creative students are harder to deal with than noncreative students. They make teachers think and don't do what teachers expect. Creative students are more apt to ask questions, voice opinions, or disagree with teachers. They are often psychologically estranged from teachers and peers. Creatives tend to be seen as being off the beaten track. They are often uncooperative, demanding, and

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egocentric. "Known" creatives exhibit behaviors which are not readily accepted by the traditional teacher, such as:

> Low sociability; feminine interests; domination and self-assertion; introversion; boldness; silly ideas; playfulness; ego-centeredness; lack of cooperation; radical outlooks; less interest in small details; nonconformity; lack of courtesy or adherence to conventions; emotionalism; self-satisfaction; excessive questioning; stubbornness; caprice; timidity; withdrawnness; and resistance to teacher domination. (Smith, 1966)

Many creative behaviors and attitudes are punished in typical classrooms. Torrance (1971) found that the following were punished: (1) children who are courageous in their convictions, (2) intuitive thinkers, (3) good guessers, (4) those who are emotionally sensitive, (5) visionary persons, (6) those who regress occasionally, and (7) those who are unwilling to accept something on mere "say so" without examination of the evidence. If these behaviors or characteristics are seen as unacceptable by teachers, children will soon learn to reduce their frequency. Many of these behaviors are related, directly or indirectly, to creativity. Thus creative expression is suppressed.

When a creative attempt is made, society, in the form of teachers, peers, or parents, accepts or rejects the product or behavior. Each attempt to do something different is evaluated by the self and by others, and through these evaluations the behavioral repertoire is shaped. Self-evaluation, however, may not be the same as societal evaluation.

If my product is worthwhile to me, I will like it. But you may not! Does this make me uncreative? It may if you are my teacher! I may be seen as being foolish, rebellious or crazy if I do things in unacceptable ways.

Suppose I paint a marvelous picture. You think I am creative in painting. Later I am not inclined to paint. I want to do something else. You, as teacher, label me an underachiever or a poor performer--though you may also designate me as a potentially creative student. Both internal and external factors determine how my "creative behavior" is viewed.

Society (teachers, peers, parents) labels students as creative or uncreative. Students also apply these labels to themselves. To differentiate one student from another, educators apply labels to students. The model below shows the way educators label students, based on societal and individual views of creative activity.

Each cell contains a portion of the school population. Cell One contains most students and represents the way they are seen and the way they see themselves--just average kids. Cell Two contains the ones believed to be able to produce more creatively. Society has determined, by hook or by crook, that they can be more creative. But they don't meet teachers' expectations, i.e., they don't think it's important to be creative. Students in Cell Three like

being creative, but society disapproves of the form their creativity takes. These students do funny things when they are not supposed to. They are different, odd, and creative in their own way. Those in Cell Four are the ones psychologists study. They are the geniuses, the gifted, the talented--the ones who are always ahead--the ones who scare us because their abilities are so great.

Individual Views Creative Performance	Society Views Creative Performance: Little Worth	Society Views Creative Performance: Great Worth
Little Worth	Undeveloped Unrecognized Uncreative 1	Underachiever Undeveloped potential Poor performer Unmotivated 2
Great Worth	3 Unconventional Rebellious Foolish Independent Bizarre Crazy	4 Creative Talented Appreciated Valued Genius

Figure 1. An educator's view of creativity recognition.

Educators have problems in dealing with children in each of the cells in Figure 1. Figure 2 briefly describes these problems.

Individual Views Creative Performance	Society Views Creative Performance: Little Worth	Society Views Creative Performance: Great Worth
Little Worth	Uncreatives: Don't know where to begin with them. 1	Underachievers: Don't know how to help them. 2
Great Worth	3 Unconventional: Don't know what to do with them.	4 Known creatives: Don't know what to do about them.

Figure 2. Educators' problems.

Many teachers and administrators believe that they should only be concerned with students in Cells Two and Four. But should the others be allowed to slip through the educational cracks?

> Can one make a valid distinction between the merely eccentric and the creative? It might be comfortable to do so after the votes are in and history has gone on long enough so that we think its verdict will not be reversed. Even then, though, one can shudder at the possibility of worlds unrevealed because the eccentricity was not met by circumstances conducive to its flowering. (Barron, 1961)

Creativity should be maximized for all students.

Teachers have the means to maximize the creative potential of all students. Three areas are presented: (1) maintenance activities to keep the creatives creative, (2) generally stimulating behaviors, techniques and environmental conditions, and (3) specific teaching methods and techniques. The remainder of the paper will deal with these three somewhat loosely divided groups of activities, methods, etc.

Maintenance Activities

Maintenance activities are defined as those teacher behaviors which help "known" creative students continue to exhibit creative performance. These activities are divided into two sections--mental health helpers and specific instructional behaviors.

Mental Health Helpers

1. Help the creatives understand their divergence and the reason for it (Barron, 1969). Tell creative students that being able to be different from their peers is not bad. Creativity should be viewed as a gift, not as a burden. Tell them it is good to see things in different ways.

2. Maintain and improve the creatives' self-worth and self-esteem (Gordon, 1966). Tell students that creative ideas or products are good and show appreciation for what they are doing. Stress that originality is good and that being creative is important.

3. Build the creatives' self-confidence (Goodale, 1970). Praise success and don't dwell on failure. Mistakes happen in creative endeavors. These should be dealt with as learning experiences and savored, rather than being punished.

4. Try to help them learn to cope with hardship, failure, anxiety and fears (Barron, 1969). It's not the end of the world when the poster Sue thought was so original fails to get first prize. There will be more opportunities in the future.

5. Use constructive rather than critical comments, if creative ideas, processes, or products must be criticized (Stein, 1974; Pepinski, 1960). Stress what was done well, then tell the student what can be improved, why it should be improved, and what can be done to improve it. Note: Primary stress should be on what was done well.

6. Use nonthreatening ways in dealing with students (Gordon, 1966). Threats engender fear. Fear-causing things will be avoided, like teachers, school, being creative, etc. Use reason rather than dictum.

7. Accept ideas or products without ridicule (Gordon, 1966). Ridicule causes embarrassment. Embarrassing things are avoided. Ridicule a new idea and the production of ideas may stop.

Specific Instructional Behaviors

1. Listen to students' ideas and praise them (Pepinski, 1960). When was the last time a principal listened to a teacher's wild and silly ideas? Many teachers fail to listen to the ideas of their students in the same way.

2. Let them make mistakes and don't punish them for it (Smith, 1966). Mistakes are necessary. Those who fear failure, fear to try. The classroom climate should minimize students' fear of making mistakes and emphasize trying even if they might fail.

3. Be a helping person rather than an authority figure (Veatch, 1953). Friends share with friends. Authority figures are people to be watched out for, they are not people with whom students share fragile creative ideas.

4. Tell them when to be creative. This is particularly true if being creative all of the time is undesirable. It is very distressing for a teacher to get creative responses on a multiple-choice test--besides it gives the computer indigestion!

General Stimulating Behaviors, Techniques and Environmental Conditions

Stimulating creativity in the classroom is advantageous for two reasons: (1) it helps maximize the creative potential of students, and (2) it makes creativity legitimate in the eyes of most students, which in turn increases the possibility that those who are already creative will produce more creatively.

When you try to stimulate creativity the most important single thing is being creative yourself:

> A creative person respects the creative spark in other individuals, and in all men. This is one of the reasons why education for creativity is so important. (Barron, 1969)

Generally Stimulating Teacher Behaviors

1. Act creatively--show them how it is done (Smith, 1966; Stein, 1974). Remember, modeling is important. When a teacher advocates creativity, it is viewed as being valuable by students. Showing an anti-creativity attitude robs students of creative development.

2. Show enthusiasm about doing creative things (Schaefer and Anastasi, 1968). Enthusiasm is contagious. Once students catch this disease, watch out, it will be hard to turn them off!

3. Be playful (Davis, 1975). This is particularly true with older students. After being in conventional classrooms most older students will probably have to be retaught play behavior as it relates to school subjects.

4. Be humorous (Davis, 1975). Humor is one of the correlates of the creative personality. Humor helps students to relax and reduces tension in the classroom.

5. Be adaptable (Goyal, 1972). Creativity is change. Adaptation is creative. Ask Darwin.

6. Be flexible enough to step away from the lesson plan when most of the students get interested in something else (Smith, 1966; Davis, 1975; Hallman, 1967). The teacher who has a lesson plan file for every day of the year may not be flexible enough to promote creative activities. Occasionally pursue interesting ideas even if they are not part of today's lesson.

7. Adopt the philosophy of saying yes-as-often-as-you-can (Allington, et al., 1978). You can't give away school rules or abdicate control of the classroom, but you can encourage producing in a variety of ways. When students know you are a "yes-person," they will become more independent and explore more.

General Techniques for Stimulating Creativity

1. Have them learn by doing creative things often (Davis, 1974). Don't just tell them to be creative. They must have many nonevaluative practice sessions where they can try to create.

2. Make creative acts pleasurable (Torda, 1970). When students see that creating is fun, they are likely to want to do it again.

3. Tell the students that they will not be evaluated when creativity is the goal (Stein, 1974; Torrance, 1965). Then refrain from evaluating them negatively. Let Suzy paint a picture with a blue sun and a green sky. Praise her for it.

4. Reduce environmental stress (Krop, Alegre, and Williams, 1969). Classroom stress can be caused by evaluative and critical teachers and peers.

Assignments which cause them to test their creative wings too soon can also be stressful.

5. Develop open-ended learning situations (Smith, 1966). Learning should go on forever. Open-ended learning situations do not have hard-and-fast goals. They do not have specific behavioral objectives, at least not from the cognitive or psychomotor domain. Students should free-wheel with little direction once in a while.

6. Provoke interest in a wide range of subjects (Barron, 1969). Most students are interested in something. Find out what it is and use it to lead them into other areas, e.g., the boy who is interested in cars can be led into math by way of learning about engine tolerances.

7. Provide opportunities for varied experiences (Goodale, 1970). Many experiences form the basis for combinations of things that create new ideas. Get the students involved by encouraging them to bring in their collections.

8. Provide opportunities and resources for a great many skills and knowledges to be learned through convergent processes (Smith, 1966). Convergent processes require "right" answers. They require facts and knowledge. This is not altogether bad. Remember that creativity builds on what has been done before.

9. Encourage experimenting with and manipulating of objects and ideas (Torrance, 1971). To "really understand" something you must do things with it. You must see what it does. Try it in different places and see where it fits. This leads to real understanding. Set the example.

10. Let one thing lead to another (Torrance, 1971). In the beginning, lead. Later, students will probably get away. This is good.

11. Ask questions to stimulate creative thinking. Use open-ended questions which can be answered acceptably in several ways. Questions with one right answer are necessary for fact learning, but they do not directly promote creativity.

12. Create dissatisfaction with a lack of knowledge--increase curiosity (Gordon, 1966). "Why" questions will help. They make students think and seek additional information. Show them that you are curious. Look up a word you are unsure of in the dictionary in front of them.

13. Create a positive tension to resolve problems (Smith, 1966). Positive tension can be created through noncompetitive group involvement. Brainstorming or synectics may be a way to start (See Davis and Scott, 1971).

14. Support sensitivity about the world outside (Gordon, 1966). Remember that there is a world outside of school. There are many things that happen outside the school environment which can contribute to creative behavior and creative problem solving.

15. Reward self-reliance (Goodale, 1970). Don't tell them everything that they are to do all of the time. When Johnny starts to work on his project before you come into the art room, praise him.

16. Reward independence (Goodale, 1970). When students do things on their own, praise them. Performing independently gets them out of the group mold and encourages them to think.

17. Reward curiosity (Goodale, 1970). When Johnny asks his twenty-fifth question of the morning, try to smile.

18. Reward self-initiated learning (Hallman, 1967). Sometimes students learn by themselves. Jim spent his summer boning up on comets--praise him. Otherwise it may not happen again.

19. Promote risk-taking (Dellas and Gaier, 1970; Anderson and Cropley, 1966). Willingness to stick one's neck out is necessary if a student is to be creative. Only conventional things are liked by everyone. Creativity training will reinforce product display if products constantly receive praise. Shyness about showing what one has done is natural but praise can overcome reluctance.

20. Encourage self-evaluation (Hallman, 1967). Products and ideas must be evaluated to find out if they are any good or if they are applicable. Teacher or peer evaluation may be harmful to the creative psyche. What's left?

21. Support cognitive activities which increase student persistence (Goodale, 1970). Reinforce activities at which students persist. From these may come interest in other activities; reinforce those, too.

22. De-emphasize conformity (Smith, 1966). Little things related to rules and specific performances should be allowed to slide if the students can do what you want in a meaningful and creative fashion. If a student forgets some of his/her lines in a play but manages to ad-lib meaningfully, he/she should be complimented.

23. Free children from inhibiting sets or expectations (Torrance, 1971). "The teacher is always right." "If you read it in print it is true." These are some of the sets or expectations to deal with.

24. Avoid sexual stereotypes (Smith, 1966). An environment in which Johnny does boy things and Suzy does girl things limits the amount of experience that the students can acquire. Boys can take Home Ec. and girls can take auto mechanics, if they want to. The more experiences, the more can be brought to bear on problems which need creative solutions.

Environmental Conditions

1. Make divergent thinking legitimate (Torrance, 1971). Start in the teacher's lounge. Colleagues can ruin attempts at creative education if they are hostile to divergent activities. It is hard for students to turn on for one class and turn off for others. Next, work on the peer group. It is hard for Johnny to be creative if he is laughed at by the other kids. Parents, too, tend to deprecate creative behavior. Tom's parents may feel uneasy about his wanting to pursue haute couture dress design. Put them at ease, if you can, and encourage Tom.

2. Maintain an open, relatively unstructured environment (Maddi, 1965). Personal freedom and responsibility are necessary if students are to come up with new ideas. The classroom climate should allow freedom for expression, questioning of facts and interaction between students. Let students make some of the decisions as to what they are to do. Anything you can do to make your classroom different from other classrooms will probably help. Work on the administration, too. Get away from the conventional, traditional school structure.

3. Promote open classrooms to foster creativity (Goyal, 1972; Anderson, 1962). There is a fair amount of research which supports this proposition. However, this does not mean that the teacher should have no control. Billy will have problems being creative if Johnny is sitting on his head. Develop an atmosphere that is permissive to the extent that children are free to experiment, explore, and make mistakes.

4. Develop a group climate that is exciting and adventuresome (Veatch, 1953). Do something different, something that is fun. Get involved. Blind walks, people machines and other exercises are appropriate to set the mood. (See Davis, 1974, for more examples.)

Specific Methods and Techniques Which Will Help Maximize Creative Potential

Creative teaching is the development of learning situations in such a way that each child is stimulated to create (Smith, 1966). Some of the following methods will work with some children and some with others. Select ones which feel comfortable to you personally. Do not expect instant results from any individual method or technique. It may take a while for students to realize that they are no longer on the receiving end of a "fact pump."

Allow students to incubate. When students are in the incubation period, when they are thinking about what they are going to create, don't disturb them. It is not an uncommon experience for a teacher to catch a student daydreaming now and then, and not uncommonly the teacher asks the child if he or she has nothing better to do. The implication is, of course, that children are not only supposed to be busy, they are supposed to look busy (Goodale, 1970). Ask the daydreamer what he/she is thinking about so intently. They may not want to share with you, but you have "stroked" them for thinking.

Planning for Instruction

1. Utilize all areas of the curriculum to provide content and situations for the development of creativity (Smith, 1966). Don't just teach creative writing, teach creative living. All areas of education should be included. Immerse them in being creative.

2. Plan teaching situations, questions and discussions in such a way that all children think all the time (Smith, 1966). When children are interested and they know that their contributions are appreciated and valued, most of them will stay on task.

3. Plan for individual differences (Smith, 1966). All students can be creative, but they have differing levels of ability. The class "dummy" can maximize his or her limited creative potential but he/she still may not be able to write a coherent paragraph. Keep differences in mind.

4. Use other than conventional pedagogical procedures (Barron, 1969). Many procedures taught in college deal with types of discipline and levels of learning that are inimical to creativity. Getting students to think creatively cannot be done using "tried and true" methodology, e.g., memorizing dates for a history test or copying the drawing of a cell from the textbook into the required student notebook.

5. Emphasize analysis, synthesis, and evaluation, not rote learning (Chambers, 1973). Most curricula emphasize facts, as do most teachers. Facts are necessary if students are to be able to combine them creatively, but the skill of combining is more important.

6. Use the textbook sparingly (Smith, 1966). Reading or lecturing from the text helps the slow reader but is usually boring to most of the class. Boredom is not conducive to creativity.

7. Encourage independent study (Chambers, 1973). Committees create negotiated solutions to problems. Groups come to a consensus. Individuals do things that are "far out." Sometimes these things are creative. Usually creative thinking comes out of immersing oneself in a subject and seeing different relationships.

Specific Intellectual Skills Which May Improve Creative Performance

1. Teach them to reject conformity in thinking (not necessarily in social behavior) (Barron, 1969). Disagreement and debate should be fostered. Remember the statement, "I may disagree with what you say, but I'll defend to the death your right to say it."

2. Train them to be aware of and sensitive to problems (Parnes, 1962). It is hard to be creative without problems to solve. Looking for relationships. associations, changes in things, etc., is useful in problem discovery.

3. Train them in problem finding (Getzels and Csikszentmihalyi, 1976). People who defer specifying the exact problem until they have played with its component parts find more creative solutions.

4. Teach students how to pass judgment and make decisions on their own creative efforts (Smith, 1966). Evaluation is critical to creative production. Should I do it? Is it good? Is it good enough? These are questions that creatives should ask about their work. They also should be able to answer them. The ability to do this comes through practice.

5. Train students to be original (Piers, 1969; Maltzman, 1960). Most originality training involves rewarding unique responses or tendencies to move in that direction. Reward and praise in a flexible atmosphere seem to be the best.

6. Teach students to defer judgment in idea development (Smith, 1966; Parnes, 1962). This is an important principle. When people try to think of new and creative ideas, the first thought is not usually the best one. Encourage students to generate many possible answers to a problem. No evaluation should be made until the store of ideas is exhausted. Then select the best one.

7. Teach students to think critically (Smith, 1966; Givens, 1962). Teach students to question so-called facts and to form their own ideas based on available information. Critical thinking in the sense of evaluation, checking for "goodness-of-fit," or in looking beyond the surface should be developed. The ability to evaluate may lead to more "elegant" solutions.

8. Teach deductive thinking (Smith, 1966). Provide information and questions, but not answers. If students routinely provide their own answers, they may find different ones from those in the textbook. This is good. Someday one of their "different" answers may solve a "real" problem.

9. Teach students to see relationships (Smith, 1966). Most creativity is not performed in a vacuum, it builds on what has gone before. Looking at things or ideas and seeing how they are related is good practice for developing new relationships. New relationships are usually called creative by those who didn't see them first.

10. Teach students to abstract (Smith, 1966). To abstract or to select out the important things is very helpful in the creative process. Finding out what is important in a problem is necessary if one does not wish to deal with trivia.

11. Teach students to construct symbols (Smith, 1966). Constructing symbols forces the abstraction of meaning and compresses it into a single figure. Figures (symbols) can be arranged in many ways to create new patterns and relationships, e.g., in taxonomies or hierarchies.

12. Teach students to adapt, modify, minify, contrast things, etc. (Smith, 1966). Any change that people make to something turns it into something new and different. Take any common object and ask students to change it in some way. This is good practice. Ask students to design the ideal teacher and compare yourself to their product.

Specific Classroom Behaviors

1. Do some things just for the fun of it (Gordon, 1966). Many stirrings begin in unevaluated play. Fun things can be creative. Sometimes they are even fun for teachers. Have each student write a funny line about a comic book character. Arrange these lines to make a funny class poem.

2. Let them do things solely for practice (Stein, 1974). When you avoid evaluation, creativity may spring forth. Practice is also necessary to build self-confidence.

3. Examine problems or information from several points of view and then combine the insights engendered (Torrance, 1971). This is an aspect of flexibility to model. Talk about poverty from the point of view of the welfare mother, the social worker, the tax payer, etc.

4. Use knowledge in one field to solve problems in another (Torrance, 1971). Here again, show how it should be done. Most students with conventional educational backgrounds will not realize that this is possible, let alone helpful, in creative problem solving.

5. Use discovery learning (Gordon, 1966). Most of the methods cited here fall within the realm of discovery learning. Don't provide all the facts. Provide information about provocative questions and let the students figure out the answers. They may discover how to discover.

6. Provide over-learning opportunities (Hallman, 1967). Saturation is the name of the game for some people. In fact, that's what this paper tries to do.

Specific Techniques/Exercises

1. Have students develop conflicting statements of attitudes about creativity (Meichenbaum, 1975). Pairing these oppositional statements develops an internal conflict in the students. Lead conflict resolution in the pro creativity direction.

2. Teach students to change things, if possible, rather than adjust to them (Williams, 1968). How many times have you said, "I wish someone would make a better _____." Show students that changes can be made. Try attribute listing or morphological analysis (See Davis and Scott, 1971).

3. Teach about rigidities, fixtures, and habits (Williams, 1968). All people have rigid areas and habits which limit the ways in which they are willing to look at things. By examining these areas students can expose these

problems. It may not change them, but at least they will better understand their limitations.

4. Practice seeing and understanding environmental phenomena (Gordon, 1966). Nature is wonderful in that it provides many examples of strange things happening. Most children are interested in it and that, too, is a plus. A great many of the things we make and the ideas we hold true come from nature or are analogs of natural processes.

5. Practice visualization to improve mental imagery and nonverbal creativity (Walkup, 1965; Gordon, 1966). Exercises which have children close their eyes and follow stories, etc., improve visualization skills. Imagery can be used to place familiar things in strange contexts: to make characters in a story come alive; to make the imaginary come to life; to create analogies, etc. This also helps students imagine what creative products will look like before they are actually produced.

6. Practice perception training to improve the ability to see detail and retain the experience (Smith, 1966). Kim, in Rudyard Kipling's book of the same name, provides an excellent example of perceptual training. Training includes rapid scanning skills, mnemonics for memory improvement, leading to re-creation of complex visual images--all by simply using a tray of semi-precious stones of various shapes, colors, values, etc.

7. Use examples of deficiencies (Williams, 1968). When it is known that an idea or construct is deficient, some will try to improve it.

8. Produce awareness of the incompleteness of the information presented (Torrance, 1971). No-one has really got it all together. When students know that information is incomplete, they will strive for closure. To do this, they have to invent. This is good.

9. Play with ambiguities and uncertainties (Torrance, 1971). Clarification is an integral part of the creative process and practice will help students understand and apply this technique.

10. Produce multiple analogies and then combine the insights gained from their use (Williams, 1968; Torrance, 1971). This technique, from W. J. J. Gordon's Synectics training program, is very useful when you want an answer to a seemingly insolvable problem.

11. Require reorganization or synthesis of information, ideas, etc. (Torrance, 1971). To synthesize is to form a material or abstract entity by combining parts or elements (opposed to "analyze"). Have them practice grouping ideas into cohesive units. Strange combinations may result. Creative relationships can be generated from these strange combinations.

12. Practice synthesizing unorganized objects, ideas, etc., into meaningful arrangements (Torrance, 1971; Givens, 1962). This is similar to the preceding idea with one difference--the result must be meaningful. Meaningfulness requires stretching the imagination if the objects are dissimilar.

13. Encourage transformation of information (Torrance, 1971). Transformations involve using ideas or objects from one area in another. This produces excellent analogies which can be the basis for creative ideas and theories.

14. Practice examining fantasies for solutions to everyday problems (Torrance, 1971). So you want to make a new _____? Fill in the blank. Pretend you are the thing you want to make. How do you feel? What are your reactions when you do what you are supposed to do? Fantasize. You may solve your problem (See Parnes and Harding, 1962).

15. Practice hypothesis formation (Gordon, 1966; Torrance, 1971). One good way to learn about something is to read about it, make hypotheses, then see if they can be validated. Creating and testing hypotheses promote positive tension and should increase persistence and enjoyment in learning.

16. Practice making a series of predictions based on accumulated information (Torrance, 1971). Give them some information about a topic and turn them loose. Better yet, let them find their own information. Test the predictions. Sometimes this is known as the scientific method. On tests it is called guessing.

Limiting Factors in Implementing Creativity Training

1. Teachers must allow children to choose when they are to participate. Pressure or coercion to participate in creative activities decreases creative behavior (Veatch, 1953). Remember creativity on order may not be creative. Make it inviting and they will join in.

2. The right of participation also involves the right of privacy. The child, alone, chooses whether or not to unveil his/her products or talents to others. Coercion alters creative behavior into something else (Veatch, 1953). This is particularly true when beginning creative education. Students will probably hesitate to show their products to others for fear of rejection.

Summary

All people are potentially creative. The problem is that society and individuals themselves do not always recognize this fact. For too long educators have dealt only with creatives and underachievers with known potential. Teachers have frequently stifled student creativity because of some of its less than desirable behavioral attributes. Most teachers have not thought that all of their students were potentially creative. Hopefully this paper and others like it will help to change this educational perspective.

This paper exposes teachers to ways of increasing creativity and to techniques which can be used to help students be more creative. The purpose of this article was to challenge thinking about ways of dealing with students. Do not try to implement all of the suggestions which have been made. Think about them, though. One or more of them may be applicable.

In general, stay loose, be flexible, and listen to students. Provide emotional support which will make them confident in their abilities. Praise them when they are creative or when they try to be. In the long run, creative students are more fun to work with, and they may in turn enhance the teacher's creativity.

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SOCIAL-PSYCHOLOGICAL CHARACTERISTICS OF ACHIEVING BLACK CHILDREN

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Decade after decade, the issue of black achievement has been raised. Over these years social researchers have verified that, on the average, black children seem to be at a lower scholastic achievement level than the average white child if you define achievement as scores on standardized achievement tests.[1] Inasmuch as these findings are incongruent with America's ideal image of itself and its people, they inevitably set off a series of attacks and treatises which seek to establish blame for this failure.

To a large extent, social science has been able to alleviate any social guilt that might be generated by placing the blame for these difficulties on blacks themselves. Poor showing on achievement tests has been attributed to inadequate socialization practices by black families,[2] matriarchial homes and absent fathers which are equated with inferior child-rearing practices,[3] and inherent intellectual inferiority of the children.[4] As more attention has been given to the relationship of personality traits and achievement, blacks have been labeled as having personality deficits that mitigate against their achievement.[5] These approaches to the problem have resulted in the assumption that poor achievement is the by-product of racial group deficiencies.

Besides leading to false assumptions, these efforts to focus

on individuals having difficulty ignores the large segment of black children who are successful and do perform according to "white" standards. As Solomon[6] points out, such an oversight does little to propose solutions and is basically unproductive. A much more helpful approach is one which elucidates the factors that seem to generate success. From this knowledge base, then, blacks would be able to find their own ways of helping their children perform at their maximum level. Identifying the factors that seemed to influence the academic success of black children in elementary and secondary schools became the objective of this review.

Academic success can be defined in many different ways. For some investigators it is equated with a student's grade-point average; to others, achievement represents the scores on an intelligence test; others see it as favorable teacher evaluations; and others specify that achievement is represented by scores on standardized achievement tests. The use of standardized tests to measure the achievement of black children has been critized profusely.[7] As noted by many investigators, the standardization samples used on the tests are generally inadequate and fail to include a black population. In addition, little, if any, consideration was given to the varying experiential lifestyles and perceptions of blacks and other minorities in the development and selection of the test questions.

In spite of these difficulties, the concept of academic achievement chosen as a basis in this review was that of scores on standardized tests. Unlike many behavioral scientists, the reviewer did not assume that all blacks are unable to perform on these tests. Instead, it was

recognized that many black youth are quite capable of performing more than adequately on standardized measures. To accentuate this point, the studies chosen were limited to those which included black children between the ages of 5 and 18 who had obtained acceptable scores on these tests. Other measures such as grade-point averages, intelligence quotients, and teacher evaluations may have been accompanying factors.

Proponents of the deficit theory of black achievement have concentrated their attention on five basic variables: family status, structure and interaction; sex differences; teacher-pupil interactions; personality characteristics; and intellectual performance patterns. Similar categories were adopted in this review to examine the elements affecting black children's success.

Family Status, Structure and Interaction:

Black achievers, for the most part, come from families whose occupational level might be categorized as upper-lower class and above.[8] While it is not surprising to find many achievers within the middle socioeconomic class range, it is interesting to note the type of families who produce black achievers within the lower socioeconomic class. For the most part, these families appear to be what Hannerz[9] classifies as mainstreamers. Both the mothers and fathers in this group are largely clerical, semiskilled or skilled workers, although their income level may be relatively low. Their most important characteristic, however, is their orientation toward the world which seems to resemble those families whose occupation and income place

them at a higher level in the social hierarchy. It appears, thus, that the real difference between achievers and non-achievers is not the occupation and income of the family, but the difference in the family perceptions of the world.

Coleman,[10] Solomon[11] and Greenberg and Davidson[12] also seem to ignore socioeconomic status as a major determinant of achievement. They suggest that it is really the interaction between the parent and the child that is more important to the child's success than the family socioeconomic status. Examination of the interaction process of the families of achievers found that black children who do well in school and on achievement tests have parents or guardians who engage in academically supportive behaviors. The most common of these parental behaviors are:

(1) The maintenance of a quality of communication that tends to stimulate the child's problem solving ability, independence, and productivity;[13]

(2) The expression of warmth, interest, affection and encouragement;[14]

(3) The establishment of close family ties;[15]

(4) The maintenance of some structure and order for the child;[16]

(5) The establishment of goals of performance;[17]

(6) The use of control mechanisms that include moderate amounts or praise and blame, moderate amounts of punishment, and no authoritarian tactics;[18]

(7) The giving of assistance when requested or when the need is perceived.[19]

Not only is good parent-child interaction seen as more important to achievement than the family socioeconomic status, it is also seen as more important than family structure. The concept of father absence has been emphasized a great deal, particularly in the relationship to achievement. Yet most recent findings seem to discount the idea that father absence is a significant variable affecting the achievement of black children.[20] In fact, some father relationships were found to be somewhat detrimental, particularly when the father is highly authoritative in his approach to children.[21]

Sex Differences:

Although the findings have been refuted in a recent study by Edwards,[22] most of the information to date indicates that the greatest proportion of academic achievers among blacks are females. While it is generally noted that there is little difference between the males and females in intelligence, girls have been found to be identified as gifted at a 2:1 ratio,[23] are seen as superior in language usage and science,[24] and are better at word discrimination tasks than black males.[25] Other investigators found that black girls manifested more of the personality traits that have been identified as important to achievement. The girls are found to be higher in need for achievement[26] and also demonstrate more of a willingness to assume responsibility for their learning in a school situation than males.[27] They also are more likely to be self-assertive and individualistic.[28]

Teacher-Pupil Interaction:

One of the most baffling characteristics of black achievers is their apparent ability to induce negative reactions from their teachers.

Although black girls do seem to obtain a more favorable response from teachers than do black males,[29] in general black achievers, regardless of sex, are found to be the object of rejection. In fact, Rubovitz and Maehr[30] found that black gifted achievers receive less attention, are least praised and most criticized in a classroom, even when compared to their non-achieving and non-gifted black counterparts. Obviously, this creates a problem for the students. If black students are to perform adequately, they respond best to teachers who are warm, interested child-oriented[31] and have high expectations of the students.[32]

Personality Characteristics:

The personality of an individual is seen as the most important antecedent to achievement, perhaps because it epitomizes the integration of all of the other factors into an interactional response to the environment.[33] Black students who do well in achievement areas seem to have numerous personal characteristics in common. In general, black achievers seem to demonstrate a need to be cautious, controlled, less trusting, and constricting in their approach to their environment. At the same time they are also highly original and creative in their ideas and tend to be very shrewd and manipulative of the situations in which they find themselves.[34] They also appear willing to conform to adult demands and manifest more of a need for conformity than independence as they seem to have very positive views of authority figures.[35]

Black achievers are goal-oriented and exploring;[36] possess greater self-confidence and a more positive self concept than black nonachievers;[37] and are more internally controlled. They perceive themselves as in

control of both their overall destiny as well as their learning situations.[38] Like other achievers, they manifest high levels of aspiration and perceive that they will accomplish their goals.[39]

Intellectual Performance:

One of the most common characteristics of black achievers is that they are highly capable people with academic promise who score high on the traditional measures of intelligence.[40] In terms of their specific intellectual skills, the black high achiever seems to excel in cognitive functioning and is especially capable in the areas of memory, verbal ability, analytical or organizational abilities, and convergent thinking.[41] Ames[42] and Greenberg and Alshan[43] also noted that this group of students made fewer perceptual errors than non-achievers.

This high level of cognitive functioning places a large number of black achievers among the intellectually gifted. Jenkins[44] concluded from his study of intellectually superior black youth that there is a proportional representation of black gifted as defined by standardized measures at every age and grade level. In fact, he found that the proportion of high IQ blacks approaches or exceeds the normal proportion in the white population. Although she did not merely limit the sample to highly intelligent blacks, Ames[45] found that about 33% of the school population in a northeastern city demonstrated high academic promise. Black achievers, then seem to be of high intellectual potential and should be found throughout the population.

SUMMARY AND CONCLUSIONS

While family income may make some differences, the most significant variance between black achievers and non-achievers is the behavior of the parents or guardians. Like the teachers, parents of achievers tend to be warm, accepting, supportive and at the same time, demanding of a better than average performance from their children. In addition the family sets the stage and provides the environment in which the child can develop the various personality traits that have been identified as important to achievement.

Within the confines of personality, the need for black achievers to be more cautious, constricted, and shrewd while staying within the boundaries of conformity seems to stand out as being somewhat different from achievers of other ethnic groups. This would seem to indicate that while wary of the opposition they must face, black achievers manage to find acceptable ways of confronting and using the situations they encounter to their best advantage.

One area over which neither the individual nor the family has control is the behavior of the teachers with whom they come in contact. The individuals in these roles seem to perpetuate the differential treatment between the sexes which then leads to a sexual imbalance among black achievers in favor of black females. But a more critical situation is generated by the apparent ostracism of the black intellectually superior student by teachers. It appears that having black students who are not deficient and who do not fit the stereotype is not a particularly welcomed situation. If this is the case, perhaps Coleman[46] was correct when he proposed that the real

difficulty in improving black achievement rests in the improvement of teacher behavior rather than the physical plants and other factors on which much attention has been focused.

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The Gifted/Handicapped
Untapped Potential

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Schools have always had the responsibility to provide a suitable and appropriate education for students. There is precedent for the mentally retarded, the blind, the deaf, the emotionally disturbed, and more recently, the learning disabled. Since the passage of the Elementary and Secondary Education Amendments of 1969 (Public Law 91-230) there has belatedly been an upsurge of legislation, educational programs, and public services directed toward a long-neglected segment of student population: the Gifted and Talented. But there is current evidence that there is a group of students that has not kept pace with peers. They have not learned as the average child learns, even though their ability or potential to learn may exceed that of the average student. Whatever the cause, this group of children deserves the same opportunity to develop to full potential afforded other students. Recent refinements in diagnostic techniques, research into how learning occurs, and a greater concern on the part of the school (and the public, who dictate or prescribe the fundaments of learning to be taught in the schools) have made it morally impossible to pass off these students as "difficult to educate." The knowledge, the skill, the availability of funding programs, and most important, the need to help these students have existed for some time.

Section 806(c) of Public Law 91-230 reads as follows:

(c)(1) The Commissioner of Education shall:

(A) determine the extent to which special educational assistance programs are necessary or useful to meet the needs of gifted and talented children,

(B) show which existing Federal educational assistance programs are being used to meet the needs of gifted and talented children,

(C) evaluate how existing Federal educational programs can be more effectively used to meet these needs, and

(D) recommend which new programs, if any, are needed to meet these needs.

(2) The Commissioner shall report his findings, together with his recommendations, to the Congress not later than one year after the enactment of this Act (1970).

The Office of Education evaluated the status of education for the nation's gifted and talented children, using several methods. Among these were public hearings held by the ten Regional Commissioners, attended by educators, State educational agency administrators, parents, citizens and gifted children from all 50 states. Other methods included a review of the present Federal educational programs, analysis of existing data bases, a review of research relating to critical issues in the education of the gifted and consultations with the nation's leading experts in education of the gifted. (U.S. Commissioner of Education, 1972)

The results were published in March, 1972, in a report entitled "Education of the Gifted and Talented." (U.S. Commissioner of Education, 1972) The results clearly indicated a wide area of neglect in the education of the gifted and recommendations were made to take immediate steps to meet the educational needs of the gifted. Nowhere in the report, however, were there any references to the needs, and subsequent ideas for affirmative action to meet these needs of a neglected portion of our nation's children: the Gifted Handicapped.

According to the Advisory Panel on the Education of the Gifted and Talented, "gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities, are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contribution to self and society." (Kimmey and Rossmiller, 1977) The panel identifies six areas of achievement and/or ability that the gifted may show high performance in, singly or in combinations:

1. general intellectual ability
2. specific academic ability
3. creative/productive thinking
4. leadership ability
5. visual and performing arts
6. psychomotor ability

Handicapped children, as identified by the Education for all Handicapped Children Act of 1975, are those who are "mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired or other health impaired children, or children with specific learning disabilities who by reason thereof require special education and related services." (Maker, 1977)

While we have operational definitions of the gifted and talented, and the handicapped, we do not have an operational definition of the gifted handicapped. However, by interpolating the two separate definitions, we can assume a working definition that would include a "mentally retarded artist, an intellectually gifted blind child, a deaf concert pianist, a physically handicapped physicist, and a great number of other very different individuals." (Sato, Birnbaum and LoCicero, 1974) In other words those who are physically or emotionally/behaviorally impaired, or culturally different, but who are capable of high performance in one or more of the six areas of ability and achievement listed by the Advisory Panel on the Education of the Gifted and Talented.

The gifted and talented are those children and youth whose abilities, talents and potential for accomplishment are so outstanding that they require a variety of special provisions to meet their educational needs. Handicapped children, by the very nature of their disorders and/or impairments, need assistance to overcome problems in furthering their education. The passage of Public Law 91-230 proved that educators and authorities recognized the need for special educational programs and services for the exceptional child, no matter what the child's unique educational need(s) might be.

As children, both the gifted and handicapped are found in all races, socio-economic groups, geographic locales and environments. As adults they may be leaders in government, medicine, invention, the creative arts, the communicative arts, philosophy, industry, science, and many other fields. In a democratic society which seeks to offer educational opportunities appropriate to each child's ability to learn, it is incumbent upon us to provide for the unique needs of both the gifted and the handicapped including those who are <u>both</u> gifted and handicapped. The most versatile and complex of all groups with special educational needs, they suffer the neglect that is typical of all groups that require special attention. There is an enormous individual and social cost when the talented among the state's children and youth go undiscovered and undeveloped. These children cannot ordinarily excel without assistance. Special services provided to gifted and talented children, and the gifted handicapped, can and do produce significant and measureable outcomes. (Sato, Birnbaum and LoCicero, 1974)

Recent figures gathered by the Bureau for the Gifted and Talented of the U.S. Office of Education show that about 3-5% of school age youngsters can be characterized as "gifted." On the basis of the 1970 elementary and secondary school population, our nation has between 1.5 and 2.5 million gifted students. (Sato, Birnabaum and LoCicero, 1974) These figures do not include children that have been previously identified as handicapped

who may also be gifted, but whose giftedness may not be recognized because of the overriding factor of their handicap(s)!

Examples of individuals that were gifted and handicapped, and their areas of high achievement and ability, are Albert Einstein in mathematics, Charles Darwin in evolutionary science, Winston Churchill in political leadership, Hans Christian Andersen in literature, Ludwig von Beethoven the composer, and Vincent van Gogh the artist. These and many others were not immediately identified as gifted individuals. In point of fact they all performed poorly in a regular classroom environment, and were often labelled "retarded." These are just a few of the many who rose above their learning impairments and went on to make important contributions to mankind, as well as themselves. Just how many have gone unrecognized, who haven't achieved their potential, and are frustrated because of their lack of recognition and means to achieve that recognition, are present in our society awaiting their chance or opportunity for fulfillment?

There is a tendency to picture the Gifted Handicapped as a handicapped child who is also gifted, or a gifted child who is also handicapped; in truth, they are neither and both. They have one foot in each world, and need the variety of services and programs available to both. The U.S. Office of Education is committed to the philosophy of providing education for children commensurate with ability to learn, in accordance with existing guidelines, statutes, and state board policies. But before programs and services can be modified, designed, constructed, funded, and implemented for the Gifted Handicapped, criterion for identifying these unique young people must be determined.

Identification is essential to meet the needs of the gifted that are basic to all children: understanding, self esteem, love, a sense of accomplishment, and self actualization. If these needs are not met, the gifted also suffer anxiety and insecurity. (Martinson, 1974)

Identification reveals a population of children who possess complex abilities and serves to alert teachers to plan more effectively, knowing the true potentials of these individuals. Identification has also proved of value for older children who have not been aware of their high abilities, as well as for underachievers and parents of limited means. Schools with effective counseling programs have been able to guide gifted young people to take advantage of financial support and gain admission to the best universities. (Martinson, 1974)

Identification itself does not improve learning, however. It neither changes home conditions nor can it reduce the impact of malnutrition, restricted learning opportunities, poor parent-child relationships, lack of interpersonal communication, or other negative factors. If a well-planned program reduces these or other deficits, performance and achievement of a gifted child will considerably improve as found in studies by Hess (1970) and Martinson (1961).

A successful screening and identification program has the following characteristics: early identification, continuing search, involvement of various professionals, use of multiple resource materials and complete study and information of the abilities of the gifted child.

Early identification and a differentiated curriculum with open access to learning have been beneficial for young gifted children, whose early experiences determine attitudes, motivation and future learning.

Successful identification must be systematic and continuous, as a regular responsibility of teachers, school psychologists and other personnel.

For full identification, multiple sources should be consulted. Minority groups should be represented on screening committees, but the final responsibility for identification should rest with a Multi-Disciplinary Team (Martinson, 1974).

In systems where children are tested prior to school entrance, the same tests could be used as part of the screening and identifying process without incurring additional expenses. If an early screening process were initiated which utilized teachers of primary grades for observation, parent input, peer nomination and whatever standardized measures were used in the school, a group of potential candidates could be screened, at which point the services of other personnel, such as guidance counselors and school psychologists, could be used to administer individual tests. (Bartel, 1975)

Testing is the traditional approach to identifying giftedness. Various types or combinations of tests are used such as group intelligence tests, individual tests, achievement test batteries, and creative tests and measures.

One combination that has been tried is the administration of group ability tests to all students in a school system. Later individual intelligence tests are given to the students who score above a certain level on the group test.

Most group and some individual tests are not designed for exceptional children. Educational personnel should be wary in administering written, visual or manual tests to handicapped children because the disability may impede the testing.

To test children with various handicaps accurately it is important to know how these handicaps affect learning and functioning in different areas.

When tested on the WISC, blind children have high scores on Digit Span and Information with low average scores on Comprehension and Similarities. The blind also seem to be superior to the sighted in areas involving oral perception, which may be due to their dependence on aural communication. Blind and sighted children did not seem to differ significantly in

overall divergent thinking ability, but the blind did show more verbal fluency than the sighted. As with the sighted, blind children scoring high on both I.Q. and creativity measures appear to be the most successful in school.

As with the blind, the intellectual ability of the deaf does not appear to be impaired by the effect of the sensory deficit alone. There is a slower rate of cognitive development, although like culturally different groups the difficulty may be one of experience rather than capacity. Research confirms the belief that the deaf and hearing impaired, like the blind and visually impaired, may also have negative self-concepts.

If a sensory deficit such as blindness or deafness causes a defect in abstract functioning or reasoning ability, an impairment of performance in academic areas which depend on abstract reasoning (literature, algebra, composition) would be expected rather than in areas which depend more on memory (spelling, arithmetic computation, grammatical rules). Furthermore, very little impairment of musical, mechanical or artistic abilities other than the direct effect of the sensory deficit would be expected.

Though research basically supports the idea that the general intellectual level of the emotionally disturbed and the behaviorally disordered is below average, there are gifted persons who have these problems. The particular dilemma with assessing creativity in these problem areas is the difficulty of distinguishing between a high score due to the subject's originality and a high score resulting from his deviance.

Additionally, there are some indications that learning disabled and gifted children are very similar in behavioral and learning characteristics attributed to the two groups. The degree of "negativeness" of the terms to describe them is a problem with the gifted tending to be described in more socially acceptable terms.

Although ability patterns are extremely variable, Meeker (1969) found consistency in the fact that the gifted learning disabled children show a common memory deficiency on WISC and Binet profiles. These and other data may indicate that the more abstract skills are less likely to be impaired than such abilities as memory.

Attempts to identify patterns of ability in the physically handicapped have produced inconsistent results. As with the testing of persons who are blind or deaf, most testing of the physically handicapped has been inappropriately accomplished by modifying tests standardized on a normal population (Maker, 1977).

Attention should also be given to all disadvantaged children with poverty and environmental limitations. Unfortunately, studies of ethnic and socioeconomic factors have concentrated on group differences as found by group tests and have ignored similarities, overlap, and the range of individual differences within groups (Martinson, 1974).

It is widely agreed that most current testing instruments are inadequate for culturally disadvantaged children. Attempts to devise tests which are

less discriminating against disadvantaged or minority children have produced mixed results, in part because psychologists, such as Vernon (1965), have concluded that there is no such thing as a culture-fair test. For example, Kuhlman and Bielauskas (1976) report that blacks were not included in the standardization sample of the House-Tree-Person.

The revision of the WISC represents one attempt to reduce some of the culture loading in assessment procedures. The Raven Progressive Matrices Tests, considered to be a culturally fair instrument, has been found to have sizeable correlations with individual I.Q. tests, including typical correlations in the range of .60 with the Stanford-Binet and approximately .70 with the Wechsler.

However, it appears that a culture-fair instrument such as the Raven offers no more useful prediction of academic achievement in a culturally disadvantaged population than does a more culturally biased instrument such as the WISC. This is perhaps because the criterion variable of school success is itself culturally biased (Hartlage, Lucas, and Godwin, 1976).

Desirable testing conditions for children of limited test experience should include individual administration, minimum distraction, interesting tasks, clear directions, adequate time for response, and continuous encouragement (Martinson, 1974). It has been shown that testing environment had a significant impact upon the test performance of economically disadvantaged children. Non-Head Start children performed more poorly when tested in their homes than when tested at a neighborhood school. The issue of testing environment is complex but the implication remains that lower-class children tested in their own homes should not be compared to middle-class children tested in middle-class school settings (Seitz, Abelson, Levine and Zigler, 1975).

Numerous efforts continue to find better tests. For example, a modified Binet scale containing items on which black children are more likely to succeed has produced a very slight increase in their I.Q. (Bruch, 1973) Stallings (1972) has developed a series of culture-specific memory items used for the screening of potential giftedness which are administered individually and are developed from urban ghetto experiences. Williams (1972) has also developed culture-specific tests for high school students which clearly favor blacks. Work is also being done on Piaget based tests as interest is increasing in the sequential development of mental processes. (Martinson, 1974)

Though the Stanford-Binet and its derivatives sample the mental efficiency of western children very thoroughly, other tests such as divergent thinking measures, the Raven, the Harris-Good-Enough, or culture-specific tests should be helpful in assessing other factors.

One such example aimed toward this goal is the Torrance's Tests of Creative Thinking. These tests consist of tasks adapted to children from Guilford-type tasks and include Unusual Uses, Impossibilites, Consequences,

Problem Situations, Improvements and Problems. Examples of test titles are Ask-and-Guess Tests, Product Improvement Task, Just Suppose, and Kate Franck's Drawing Completion Test (Incomplete Figures Test. (Torrance, 1962)

Individual intelligence tests more accurately measure giftedness than group tests. Group tests are designed for the total population, and therefore many group test items are so easy that they serve no function in tapping the ability of the gifted. The individual test enables the examiner to estimate the level at which he/she should start testing and thus maintain motivation while measuring efficiently. (Simpson, 1962)

The Stanford-Binet is currently held to be the best identification instrument available for mental giftedness. This and WISC are full-length individual tests in widespread use. However, the WISC does not encompass extremely high or extremely low I.Q.'s and is, therefore, limited for the gifted. (Beeman, 1960)

In general, standardized achievement tests tend not to indicate talents in disturbed and handicapped children or in under-achievers. We must, therefore, look at patterns of abilities rather than just I.Q. scores. Testing also usually evaluates overt behavior, but handicapped persons may be unable to emit responses or may emit atypical ones as they might be hampered in reflexive responses.

Some subtest ceilings on individual tests may be so low that they do not accurately detect giftedness. "It is important to use an individual test with an adequate ceiling, so that the true ability level of the child may be determined. Considering the range of abilities within the gifted group, the problem of ceiling is of crucial importance in the use of the individual test." (Simpson, 1962) For these reasons, our position is that a school district should undertake a more comprehensive approach to the identification of gifted handicapped children.

The end product of the identification process is a case study where all information concerning a student and his needs are made available to educators. This method allows for much more flexibility when detecting giftedness in a handicapped person, especially students who are from racial or ethnic minorities. (Martinson, 1974)

In the case study procedure information based on aptitude and/or achievement tests scores is used along with recommendations by a multidisciplinary team. Barron (1968) states that some schools have also used the judgement of experts in various fields to identify talent by way of creative products. The evaluation of creativity should be made by individuals who can distinguish eccentricity from creativity and who understand the qualities of complexity and originality inherent in the creative act. The multidisciplinary team should consist of classroom and special education teachers, parents, language specialists, vision and hearing therapists, school psychologist, social worker, physician, school district administrator and one or more experts in the suspected area of giftedness who organize and synthesize information to be presented at a conference. Consideration should be given to student performance records; parent, peer group and self-ratings; intellectual

stimulation at home; language status; health; nutrition; the child's potential for learning and opportunity for success.

Good education for the child with exceptional learning needs should be one that carries out several basic purposes:

(1) fosters and promotes the optimum development of each child;

(2) helps each child become a social being;

(3) educates each child for citizenship in our democracy.

Each child should also have the opportunity to achieve his/her maximum potential of intellectual/creative growth. To accomplish these, educational experiences for children of varying abilities must be planned so that all may have an equal opportunity to grow into strong mature adults. Although the school plays a major role in accomplishing these goals, home and community are also important factors. Open channels of communication between all are necessary for cooperative planning to focus upon the unique and complex needs of the Gifted Handicapped. One person or profession cannot hope to have a broad enough base of experience, education, or training to accomplish this. Therefore a number of qualified individuals must be formed into a team similar to a Multi-Disciplinary Team (MDT), to review and suggest evaluations and educational programs for each child who might be Gifted Handicapped.

Once the Gifted Handicapped have been identified, the next area of concern is that of community acceptance. Without the support of the general community, any educational program aimed at fulfilling the unique needs of the Gifted Handicapped will falter and ultimately fail.

> The opposition to special education for the gifted is seen mainly as lack of public awareness and lack of funds. The belief that the gifted can manage without provisions and that other priorities are more important were mentioned. The major efforts of all agencies responsible for instituting programs for the gifted were described as disorganized or nonexistent. Support in rural areas was seen as the worst. Advocacy of programs for the gifted rests primarily with those most directly concerned and affected: teachers of the gifted, parents, and children. Most others are seen as neutral. (U.S. Commissioner of Education, 1972)

The lack of public awareness is the single most important factor inhibiting community acceptance. The need to educate the public to accept and promote the exceptional educational needs of the Gifted Handicapped must be fulfilled if these children are to be given the opportunity to develop to their optimum potential. The image of the exceptional, or "different," child as being someone who cannot function in a normal setting, requires expensive instruction and materials, has difficulty in making social adjustments in a

peer group setting, and is a threat to the welfare of the "normal" children because of disabilities/impairments, has mostly disappeared from the mainstream of public consciousness. But there still remains the task of convincing the public that the Gifted Handicapped are not "educational ogres" that will demand so much individual attention that the rest of the educational program(s) will suffer. The public must also be informed that, on the other extreme, the individual attention received by each Gifted Handicapped child will not "single him out" among his/her peers, thus causing him or her to become socially ostracized.

Community acceptance of individuality and creativity among the Gifted Handicapped must be fostered for the individual to contribute to the potential betterment of society. Given the chance to attain his/her optimum level of ability, the individual will become a functioning, and therefore, contributing, member of society.

Prior to implementation of a gifted education program, parental and community involvement should be secured. Supportive services invaluable in gifted education can be obtained from the community. Professional, industrial, and governmental leaders may be invited to lend their expertise. Several avenues of approach should be used in relating the ascertained needs of the student with the goals and objectives of parents, community, and society. The following approaches are recommended as possible means of determining parental and community ability to fulfill identified gifted students' needs.

A. A local job survey might be conducted to find out the types of vocations needed in the community at the present time.

B. Nationwide occupational guidance should be provided the gifted child through the school guidance department.

C. Personal interviews with community leaders to ascertain the kinds of talents they view as essential to their occupations and methods for promoting these talents in gifted students.

D. Administering a parental questionnaire for use in assessing their gifted child's needs.

E. Holding a personal conference with the parents of identified gifted students to determine the educational aspirations they have for their child and their ability to help the child achieve those aspirations.

F. A survey of community resource facilities and personnel able to augment the school's gifted program.

G. A survey of avocational opportunities in the community.

Finally, a cost-conscious public has shown itself reluctant to approve the implementation or expansion of programs old and new.

> "Title VI, a 1966 Amendment to the Elementary and Secondary Act of 1965, is designed for educational programs and services for all types of handicapped children at the preschool, elementary and secondary levels from both public and private schools. Title VI may be used for direct or indirect programs or services involving the initiation, improvement, or expansion for educational programs for all types of handicapped children within this context. Individual items for funding may include: salaries, materials/equipment, transportation, consultant fees, housing, lunches, psychological services, inservice training for teachers, remodeling, construction, etc." (Jefferson County Special Education Department) The legislation necessary for national programs for the Gifted Handicapped are already "on the books;" it only remains for the public to be made aware of this by educators so that these neglected children will gain the attention they deserve. "In most cases, however, the main thrust of the legislation is for a targeted population such as the disadvantaged or handicapped, so that gifted and talented children could only be served by these program funds if they are also gifted and handicapped." (U.S. Commissioner of Education, 1972)

Federal and state laws make available appropriate education for all exceptional children. Since the gifted handicapped are not currently being served in such capacity as would meet their unique needs, appropriate action should be taken at all levels of education and/or legislation, immediately.

Each school district should provide a supervisor for gifted/handicapped education. This person should be a certified supervisor in the areas of gifted education and handicapped education. Certification standards for a supervisor of gifted/handicapped education should be determined by each state department of public instruction.

The supervisors should be responsible for individualized instructional programs to serve the needs of the gifted/handicapped students in their districts. Cooperation between school districts is encouraged so that the needs of individual gifted/handicapped children are best met in the event that their geographic location makes it difficult to provide for the specific needs of that child.

Teacher/facilitators for gifted/handicapped programs need to be those with professional or nonprofessional experience and/or professional background in areas of gifted education and handicapped education. The teacher/facilitator must have professional certification in at least one of these areas. This teacher/facilitator should be responsible for carrying out the educational objectives as directed by the Multi-Disciplinary Team. However, the teacher/facilitator may not be the child's personal instructor. The

teacher/facilitator, may, in reality, align the students' needs to those persons qualified to provide for such needs, whether these needs can be met within the immediate community or elsewhere. It is strongly emphasized that due to the exceptional demands of such a program on the teacher/facilitator that they should not be responsible for more than a case load of ten (10) students during any one school term. These teacher/facilitators should be under the supervision of the school district supervisor of gifted/handicapped education.

Personal instructors should be under the direct supervision of the teacher/facilitators. In many instances the personal instructor and the teacher/facilitator may be the same individual.

Criteria for selecting the teacher/facilitators are enumerated in the list that follows; adapted from Sandra N. Kaplan's Providing for Gifted and Talented: A Handbook as presented by the Council of Exceptional Children:

(1) A teacher who can enjoy the reputation of being a highly superior teacher.

(2) Possess emotional maturity and have a positive self-concept.

(3) Be flexible and tolerant of diversity.

(4) Display positive attitudes toward gifted/handicapped children.

(5) Demonstrate innovative approaches to teaching.

(6) Show evidence of superior intellectual ability.

(7) Be able to develop teaching strategies which engage children in the higher orders of intellectual activities even though the children may have one or more of a variety of handicaps.

(8) Have superior knowledge and performance in one or more of the following areas:

a) general intellectual ability

b) specific academic aptitude

c) creative and productive thinking leadership ability

d) visual and performing arts

3) psychomotor ability

(9) Have had three or more years of successful teaching experience and/or be recognized in his/her field for outstanding accomplishments. (Kaplan, 1977)

Programs for the gifted/handicapped will require constant planning expansion, increasing diversity, and creative modes of evaluation, if they are to succeed and continue. The programs will be providing opportunities for extremely different forms of talent development and expression. Programs which provide for the poet, artist, inventor, scientist or budding politician will allow varying interests and productions which cannot be evaluated in standard fashion.

Successful programs show that special preparation of teacher/facilitators is mandatory. Teacher/facilitators who have such preparation tend to be sympathetic to the gifted/handicapped and to provide them with necessary learning opportunities. This preparation should be extended to the total educational profession and to the public at large so that the gifted/handicapped may be widely encouraged to use their abilities. The result would be greater numbers of gifted political leaders, inventors, creative artists, educators, medical personnel and others contributing to society and working on its problems. The result would be a better future for all Americans. (U.S. Commissioner of Education, 1972)

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SEX-ROLE STEREOTYPING: ITS IMPLICATIONS FOR GIFTED WOMEN

by

Donna Rae Clasen

"A woman should be good for everything at home, but abroad, good for nothing." (Euripides 484-406 B.C.)

"The world of man's selection
May widen more and more
Women in drudgery knew
They must be one in four:
Whores, artists, saints and wives."
(Muriel Rukeyser, Beast in View, 1944)

The two views expressed above show little change of attitude toward women or women's role in the 24 centuries that have elapsed between the first and the second quotation. Furthermore, there is adequate evidence that there has been little change in the last ten years, despite the welling cry of injustice from feminists, liberalists and women in general. Some readers may acclaim a change; and, in fact, there has been some broadening in the range of prevailing attitudes toward sex roles for both men and women (Minuchin, 1975, p. 124). But almost all current evidence indicates that little ground has been gained, despite the intensity of the war. In fact, where change does exist it is highly localized, often limited, for example, to communities such as university ones. Indeed, for the most part, a change in society's attitude toward women and their roles is far more idealized than realized.

Is it different, however, for the gifted women? Are there a select few who have succeeded in their elected fields and who dominate their

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chosen domain? Who are the gifted women, and where are they? Is it better for them? We shall see, in fact, that it is probably worse.

Applying the current definition of gifted developed for the Report to Congress (U.S. Commissioner of Education, 1972), gifted refers to individuals capable of high performance in a number of areas. Thus gifted females refers to girls and women who are above average in one or more of the following areas: general intellectual ability, specific academic ability, creative thinking, leadership ability, psychomotor ability and ability in the visual and performing arts. Nowhere does the definition indicate that women may be recognized as gifted in some areas but not in others. Where, then, are these gifted women?

Within a matter of minutes almost any age group can compile a list of the leading male figures in any given field--political, sports, literary, music, etc.--the shapers of yesterday and today and tomorrow. It is a difficult task, however, when groups are asked to compile lists which include only women. In a history seminar at Sarah Lawrence College, students were asked to list ten American women of importance before 1950. Many of the students could not (West, 1976, p. 10).

Can it be that there are in fact more gifted men and boys than gifted girls and women? Could that explain why there are so few women in top echelon positions of leadership, discovery and innovation despite the fact that women constitute 51 per cent of America's population?

How many women, for example, have been on Time magazine's cover--ever? If one excludes president's wives and movie stars, who may or may not be gifted, one finds very few. Golda Meir. Sarah Caldwell. Nadia

Comaneci. Beverly Sills. Has there ever been a Woman of the Year? In 1976 Time recognized Women of the Year. It required 12 women to take over a page heretofore reserved for the Man of the Year (Time, 1976).

In 1969 members of the Overseas Press Club chose a dozen figures of the Twentieth Century who they felt have left their mark for good upon our time (The Milwaukee Journal, 1969). The results were compiled in a book entitled Heroes of Our Time. The volume includes the biography of 12 persons, led by Sir Winston Churchill, who received the most votes. Ten of the other individuals are men. Eleanor Roosevelt, who ranked sixth, is the only woman included. Are there really so few gifted women?

Are there indeed so few or is it that society, consciously or unconsciously, has submerged this great potential human resource? Is the spark of genius there in children--boys and girls--dancing and alive like all newborn flames, only to be fanned and nurtured in the boys but smothered in the girls and perhaps left smoldering and resentful, too soon turned to ash? Is it that the gift of genius is much more likely to be accepted and enjoyed by society if the gift is given to a male than a female?

Indeed, it seems that this might be so. Early childhood tests of aptitudes and abilities indicate that there are as many capable, competent, gifted girls as there are gifted boys (Gage and Berliner, 1975, p. 422; Maccoby and Jacklin, 1974, p. 65). In a review of tests of children from age 2 to 7 where abilities that will be involved in later intelligence were measured, Maccoby and Jacklin (1974, pgs. 65-68) found that when a sex difference existed, it favored girls. Thus if there are gifted girls

it follows that there should be gifted women. Some other explanation than their nonexistence must be sought, and one must investigate the course of development from early childhood, where girls often excel, to adulthood, where men usually excel, in search of solutions to the mystery surrounding the failure of gifted girls to materialize as gifted women.

To date, one of the most viable explanations as to the absence of the fulfillment of outstanding women in both the past and the present is found in the definition of sex-role stereotyping. This refers to expecting particular behavior patterns--physical, emotional and cognitive--and certain aptitudes and occupations of an individual on the basis of this person's sex. As children grow, society both instructs and restricts them regarding their expected roles; and here, as in many instances, expectancy often becomes a self-fulfilling prophecy.

Sex-role stereotyping begins in our society at birth: Girls are wrapped in pink, cuddled, treated tenderly, gently and, in general, introduced to a frilly, often frivolous, environment. Boys, on the other hand, are wrapped in blue, tossed and tumbled about and, in general, introduced to a 'get in there and fight' world. Girls may even be taught to fear the environment; boys are taught that they must master it.

By the time girls and boys are ready for school, culture has fairly firmly imposed upon them their sex roles. The school refines this socialization process. The elementary girl plays in the doll corner. She works on being quiet, docile, clean and refined. Later she often takes home economics and clerical courses. She may participate in club activities,

more often being the secretary than the president. She begins preparation for the role society has created for her--helpmate and assistant to the male.

Boys, however, continue in their rough and tumble world. They enjoy large toys, noise and fast movements. They may fight. And most boys participate in some form of competitive sport from kindergarten through high school. This competitive behavior which is encouraged in sports (and is one of the characteristics considered essential for success in many careers valued by our society) has been considered unacceptable for girls until recently, and it has still not gained wide national acceptance or support in the schools (Education A Workshop Guide, 1975, p. III-4). Thus boys prepare--or are prepared for--a competitive, goal-oriented world. Girls prepare--or are prepared for--more social, less competitive roles.

Such patterns continue through junior and senior high school, constantly being reinforced; and by the time individuals are expected to enter the adult world and fulfill their possible adult roles, women find they are faced with limited choices. Due to prior selection of high school course work, participation in certain activities and scoiety's expectation as to positions they might hold, women often find that the fields most accessible to them are the traditionally female fields: teaching, nursing, secretarial work. The males' choices, however, are almost unlimited.

In addition to the overt sex-role stereotyping that occurs as children grow, more subtle and more damaging effects may also be taking

place for girls. This is in their attitude toward themselves as girls and females, a reflection of how they see themselves regarded by society. Increasingly with age, femininity and being female are socially devalued by both sexes. In fact, the masculine status may he so preferred to the feminine that girls may adopt tomboy attitudes and be admired by some for doing so, but boys who adopt feminine attributes are despised as sissies (Baumrind, 1975, p. 63). And a number of studies report both sexes rating men as more worthwhile than women (McKee and Sheriffs, 1957, p. 92). In addition, in one study done only with female subjects, Goldberg (1968) found that women not only considered women inferior to men in fields strongly associated with men, such as law and city planning, but that women also considered themselves inferior to men in traditionally feminine fields, such as elementary teaching and dietetics!

The results of an experiment at Towson State College in Maryland provoke some interesting questions on this point. In response to a series of questions, fourth-grade students, boys and girls, agreed that 1) boys were not smarter than girls, nor girls smarter than boys; but 2) daddies were smarter than mommies (Howe, 1975, p. 18). Both girls and boys seem to be projecting those attitudes which they believe that society will expect of them as adults, in this case the attitude that to be male is to be brighter than female.

And indeed this attitude seems to become increasingly entrenched; and by college age, women, on the average, show less confidence than men in their ability to perform well on a variety of intellectual tasks. Also, they express more confidence in dealing with social situations than

intellectual tasks; and they are more highly motivated to do well in social situations (Maccoby and Jacklin, 1975, pgs. 134-163, Stein and Bailey, 1975). Furthermore, college-age women have less sense of internal control where academic achievement outcomes are concerned. For example, they are more likely to attribute academic success to external factors such as luck or chance while men are more likely to attribute success to their own abilities (Frieze, 1975).

Thus as girls mature, in the areas of task competency and leadership, they increasingly defer to boys. And one might pose the questions of whether or not this reflects reality. In elementary school, girls on the average do better than boys in school achievement (grades), but the difference is often reversed by high school (Gage and Berliner, 1975, p. 424). Are girls and women only accepting fact when they indicate that they agree with males that the male will do better in leadership positions, in problem-solving, in the top-paying jobs or in most any job, according to the Goldberg study (1968)? Although intellectual development isn't positively related to physical development (Maccoby and Jacklin, 1974, p. 65), perhaps some dimension of maturity allows girls in elementary school to average higher school achivement scores than boys and as soon as the boys catch up, they surpass the girls. Perhaps, in the end, males are more gifted than females in intellectual and special abilities.

This possibility must be explored, and indeed it has been. By itself, the single issue of cognitive and intellectual differences between males and females has generated a massive amount of research. Other possible differences between the sexes in ability and personality have also been investigated, and it is appropriate to review here several

critical areas in which sex differences have often been claimed to exist and therefore expected. Perhaps the research can help us better decide whether or not girls may be less gifted on the average than boys.

In general intelligence, are boys intellectually superior to girls?

Literally hundreds of studies have been done involving sex differences in intelligence and cognition and several in-depth reviews of the literature in this area have been done (Unger and Denmark, 1975, p. 229-499; Maccoby and Jacklin, 1974, p. 63-133). Conclusions reached by these reviews are nowhere stated more clearly than in the comprehensive work of Maccoby and Jacklin (1975, p. 65): "It is still a reliable generalization that the sexes do not differ consistently in tests of total (or composite) abilities through most of the range studied." Other researchers concur (Gage and Berliner, 1975, p. 422): "Overall, no differences between the sexes are noted when general intelligence is measured."

Do girls have more verbal ability than boys?

On the average, girls score higher than boys on tests of verbal fluency, especially after 11 years of age. In some studies the difference is fairly large in absolute terms (Maccoby and Jacklin, 1974, p. 84). Girls' verbal superiority is less pronounced, however, in verbal comprehension and verbal reasoning, and the overlap of scores is fairly large.

Do boys have better spatial ability than girls?

Boys are frequently found to be superior in spatial ability, a reason often cited for their superiority in math. A number of researchers (Stafford, 1961; and Bock and Kolakowski, 1973) regard the spatial ability as genetically determined, carried on a recessive X chromosome which is

more likely to appear in the X Y combination of boys than the X X combination of girls. To say that there is a genetic component in spatial ability does not imply, however, that men will have it and women will not. In fact, there is a great deal of overlap in the scores on spatial ability, and many girls will score higher than boys.

Whether or not superior spatial ability is related to superiority in math is as yet undetermined. Gage and Berliner (1975, p. 423) suggest other reasons for superior male achievement in math:

> School achievement in mathematics and anticipation of masculine roles in society appear to be positively correlated in our society. Perhaps, then, the differences in mathematics achievement, in our culture, represent nothing more than differential role expectations.

The authors (Ibid.) note that a 1971 study revealed that in Sweden, where sex differences in available roles are smaller, the male-female differences in math achievement also tended to be smaller.

Thus in the three areas where sex differences are frequently expected, research has found that the belief is unfounded (intellectual differences) or greatly exaggerated (verbal and spatial ability). Superiority in a domain is not exclusive to one sex, and reviewers Unger and Denmark (1975, p. 306) conclude succinctly: "It cannot be overemphasized that there is more overlap between males and females than there are differences between them." In addition, researchers (Gage and Berliner, 1975, p. 422; Maccoby and Jacklin, 1974, p. 4) caution that reviews of research present a built-in bias: in general, studies that find sex differences on a particular variable are reported and printed in journals whereas studies finding no differences are frequently ignored and unpublished. Regarding

sex differences between males and females in areas of aptitude and abilities, the conclusion of two researchers and educators previously quoted (Gage and Berliner, 1975, p. 439) reflect the opinions of most persons who have seriously studied the data:

> Sex differences in areas of cognitive functioning have been found to be trivial. From the literature on general intelligence; verbal, numerical, spatial, and problem-solving ability and actual school achievement, we find no compelling evidence that the sexes should be treated differently by teachers. More important, we find no reason for holding different expectations for performance for the sexes.

However, even though we must grant that sex differences in areas of intellectual functioning are minimal, we also must recognize that personality differences between males and females do exist. It is here, indeed, that the effects of sex-role stereotyping in our society may be most clearly seen. Let us examine some of the personality variables in which sex differences do appear.

Are males in general more aggressive, competitive and assertive than females?

Although variations of the male role occur across cultures, because of the male hormones and their general physical strength, males are generally more aggressive, energetic, dominant and assertive than females (Gage, 1975, p. 425). And it is worthwhile to note that these characteristics are the very ones deemed essential in our society for success in leadership and prestige careers. However, these qualities are not exclusive in the male; they are found in girls as well as boys (Maccoby, 1963). Society's reaction to them differs, however: society extols these attributes in the male and considers them virtues; in the

female they are considered negative qualities, i.e., unfeminine.

Research in this area offers some revealing implications for the intellectually-gifted girls. Kagan and Freeman (1963) found that girls who reject the more feminine roles and exhibit more masculine characteristics of assertiveness and independence score higher on intelligence tests than do more conforming girls. Other researchers (Maccoby, 1963; Sontag, et. al., 1958) have also found positive correlations between high IQ in girls and the variables of competition, independence and dominance. This imbalance between self and society's sex-role expectations causes the gifted female a great deal of conflict and Maccoby (1963) reports that the woman who defies the conventions concerning what is appropriate behavior for her sex will pay a price for it - a price in anxiety (Ibid., p. 36). She continues (Ibid., p. 37):

> From the standpoint of those who want women to become intellectuals, this is something of a horror story. It would appear that even when a woman is suitably endowed intellectually and develops the right temperament and habits of thought to make use of her endowment, she must be fleet of foot indeed to scale the hurdles society has erected for her and to remain a whole and happy person while continuing to follow her intellectual bent.

Thus it would appear that the intellectually gifted female may find that she is in a double bind. If she defies the cultural stereotype, she may be rejected by society. The alternative is to deny in some manner her gift.

Do males report higher self-esteem than females?

Across age levels through college age, the similarity of the two sexes in self-esteem is remarkably uniform (Maccoby, 1974, p. 153). However, self-esteem is not related to the same values in both sexes.

Increasingly, as girls mature, their self-esteem is tied to interpersonal relations and acceptance (Birnbaum, 1975, p. 396), that is, how well they perceive themselves functioning socially. For males, self-esteem is less tightly bound to one dimension; for them a high self-esteem may be related to success in several areas: academic, sports, work, social.

McCandless (1976) has said that individuals are likely to reflect society's wishes as they identify those facets in which they need success in order to have a positive self-concept. Thus one's self-esteem may be determined by how well one seems to be fulfilling her or his sex role. Thus, girls may report high self-esteem if they perceive themselves successful in affective relationships because this is what they see society values for them, not because of an inherent need for affiliation. For the gifted women who may be more competitive than affiliative or social, the result may be a lowered self-esteem. One way in which she may attempt to raise her self-esteem is to bow to society's demands and seek to be more social. If she does this there must be conflict, for she denies a part of herself.

Do boys have more confidence than girls, and are they more achievement oriented?

By college age, men and women do not approach a variety of intellectual tasks with equal confidence. College men are more likely than college women to expect to do well on the task and to judge their work favorably when they have finished (Maccoby and Jacklin, 1974, p. 154). In a selective review of the literature, Frieze (1975) found that men and boys anticipate more success than do women and girls not only in

clearly defined masculine tasks but also in some cases for feminine tasks. In addition, women are more likely to attribute academic success to luck or chance while men attribute success to skill and ability (Ibid.; Horner, 1970). Regarding the latter part, it might be hypothesized that women retain more self-esteem by disclaiming responsibility for their success; if they have not caused their success perhaps society will be less critical of them.

Also by college age, males and females differ as to achievement motivation. Women are more likely to desire to succeed in those areas which our culture has designated as appropriate for females, that is, being skillful in social situations and relations. Males, however, desire to succeed in areas demanding competition and dominance. (Stein and Bailey, 1973). Research in achievement motivation by one investigator, Matina Horner (1970), has led her to hypothesize that women's achievement motivation is affected by what she terms 'fear of success'. The implications of Horner's theory are particularly important where gifted women are concerned.

Horner notes that in the early school years girls perform better than boys but at about the time of puberty--and perhaps coincidental with dating--the situation is reversed, especially in the traditionally male domains of math and science. What might happen to the intellectually gifted girl at this time? For one thing she may be receiving many cues from society that tell her that she is not supposed to be smarter than the boys, especially the boys she dates. But being gifted she knows she is brighter and indeed sees more clearly and quickly her relationship

with others (Bickford, 1976). She may want to compete, but society's disapproval of such behavior weighs against her. Horner (1970, p. 66-69) feels that many girls deal with this dilemma in a certain way:

> There is increasing evidence that, in the course of their college experience, most capable young women change their plans toward a less ambitious, more traditionally feminine direction--that is, away from 'role innovation'. The gifted women may have 'fear of success' and withdraw from the actual achievement of it because she believes that success in an innovative role may rule out success in the traditional and expected role---affiliation with the opposite sex.

This submergence of self into the role society expects her to play may not, however, bring the gifted women satisfaction or happiness:

> In preliminary inspection of data, to be reported later, on the most recent follow-up of Terman's sample of gifted children, P. S. Sears and M. H. Odom (personal communication, 1974) find that in later middle age women who were gifted children feel more bitterness and disappointment about their lives than do men who were similarly gifted in childhood. The men, by and large, have had considerably more "successful" lives in terms of personal achievement outside the domestic sphere, and the women tend to look back with some regret on what they now see as missed opportunities (Maccoby and Jacklin, 1974, p. 153).

Sears and Odom's findings support the belief of many feminists that society instructs women to withdraw from success and to remain in second place but that many women have not done this with pleasure and in latter years they are filled with a bitterness as they consider their lost opportunities. Horner's description and explanation of this process of withdrawal from success certainly seems viable, and she offers a provocative premise as to why Heroes of Our Time includes only one woman.

Furthermore, Horner's theory may help explain why a number of gifted girls drop out of high school. (A number of hypotheses exist: boredom

and frustration with the school curriculum, alienation from teachers and peers, the wish to work and become financially independent.) Horner's theory suggest it might be their fear that success, especially success in a nontraditional role, will rule out success in roles which society expects them to fulfill and which society approves and accepts. In fact, when Combs and Cooley (1970, p. 405) studied dropouts in high school and after high school from Project TALENT, they found that among the girls who dropped out of high school, approximately 3/4 of them gave "Got married" as their reason for leaving high school.

Horner (1970, p. 68) conjectures that the brighter women are and the more they extend their potential, the more they restrict their chances for marriage. D. Riesman (1964, p. 731-732) agrees:

> Just as girls six feet tall complain of the still taller men who marry girls who are five feet two, since there are not enough really tall men to go around, so girls who are six feet tall in intellect and drive realize that many men of comparable power will marry very low-pressure, eye-fluttering girls, and that there will not be enough secure, nondependent men left for the women who could grow and develop in marriage to such men. Hence girls who feel that if they do not marry early . . . they may not marry at all are prepared unconsciously if not consciously to surrender chances for personal distinction in order to be fairly sure of pleasing a larger range of men.

It might be noted that of all the female TALENT dropouts, 56 per cent reported that they were sorry they did not graduate (Combs and Cooley, 1970, p. 405).

In summary, then, high school and college males do seem to have more confidence of performing well on a variety of tasks than do most females the same age; and on the average, males are more achievement motivated in areas of competition and dominance. However, there are no data to in-

dicate that this is inherent in the male or female of the species. Instead, research such as Horner's indicates that this personality characteristic is learned. It is the adjustment that both males and females make to the expectations of a male-oriented culture.

It is apparent, then, that personality differences do exist between the sexes; but these differences are along the dimension of sex-role expectations. Furthermore, these characteristics in which males excel are exactly those qualities which our society views as necessary for success in work and career. Thus it is ironic that society might view women as inferior on the basis of "confidence" and "achievement motivation" while simultaneously structuring the world so as to create lowered female confidence and achievement motivation levels in areas of competition, assertiveness and leadership. However, until a change in attitude occurs regarding women's abilities and their possible roles, facts and statistics such as the following will continue to be compiled:

> . . . In a 1973 survey of sixty fellowship programs made by the Project on the Education and Status of Women it was found that over 95 percent of the most prestigious fellowships were granted to men; overall 80 percent of all fellowships granted were given to men (Nies, 1976, p. 7).
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> . . . Women are about two-fifths of all professional and technical workers but only about one-sixth of all non-farm managers and administrators. (Stern, 1976, p. 35).
>
> . . . Women are 76 percent of all clerical workers but only four percent of all craftsmen and foremen (Ibid.).
>
> . . . Fully employed women high school graduates (with no college) have less income on the average than fully employed men who have not completed elementary school (Ibid.).
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> . . . On the average, female professors earned over $3,000 less than male professors in 1975 (Education A Workshop Guide, 1977, p. 1-5).

. . . Within colleges and universities the only spots where women can be found in substantial numbers are middle- and low-level administrative posts that almost never lead to top academic posts (The Cronicle of Higher Education, June, 1977, p. 8).

. . . Only about one percent of all the presidents of public four-year colleges and public and private universities are women--essentially the situation of four years ago. In public universities, only two of the 113 presidents are women, with one of these presiding over a women's institution (Ibid).

. . . In 1972 women accounted for 35 percent of the editorial personnel of American newspapers. However, all but a few worked for feature sections or edited women's news, food, fashion or television. The Associated Press had a U.S. news staff of 1,050 with 112 of them being women. Two were bureau managers (Time, March 20, 1972, p. 53).

. . . Between 1950 and 1975 gains among females receiving college training were much less dramatic than for males. In 1950 about 5 percent of the women had completed four years of college compared to about seven percent of the men. In 1975, 10 percent of the women had completed 4 years of college compared to 19 percent of the male population. While educational attainment has improved for the adult population as a whole, women have actually lost ground relative to men at the levels of higher education (Social Education, April 1977, p. 320).

. . . In 1973-74 women earned 44 percent of the master's degrees and 21 percent of the doctorates. Most of these were in the traditionally female fields of home economics, library science, foreign language, non-medical health professions and education (Education A Workshop Guide, 1976, p. 1-3).

. . . Twenty-six medical institutions have a female enrollment figure below 20 percent. The Medical College of Pennsylvania has the largest percentage of first-year women medical students--64 percent (Ibid, p. 1-5).

. . . While the percentage of women in first year law school classes has risen dramatically on the national level since enactment of Title IX of the Education Amendments of 1972 (from 15.7 percent in 1971 to 26.8 percent in 1975), it appears that many law schools are still not accepting women under the same standards as men (Ibid., p. 1-4).

> . . . A study completed by the Women's Committee at the University of Chicago indicates that females wishing to enter traditionally male fields (medicine, math, physics and economics) needed higher grade averages than the men (Harris, 1975, p. 170).
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> . . . In 1972 about 75 percent of the art students were women but a survey of commercial galleries across the nation showed only 18 percent displaying works of women (Time, March 20, 1972, p. 77).
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> . . . Income figures from the Population Reference Bureau on median earnings for 1974 show that income differences between men and women range from about $2,300 per year for non-farm laborers to as high as $7,400 for sales workers. The median earnings for professional women were about $9,500 for women and about $15,000 for men. (Social Education, April 1977, p. 320).

Such facts as these indicate that although women comprise 51 percent of the total population and 53 percent of the electorate, women still retain minority status. In addition, it is difficult to explain where the gifted women might be located in statistics such as these. They may be the small percentage in leadership positions but their representation is incredibly low. . .two or three percent at the very most. Stated simply, women are not the dominant forces and well-known names in almost any field, except perhaps, the Women's Movement.

If Horner's theory is correct, many of the most capable women have withdrawn from the competition and accepted a traditional role. Harris (1975, p. 171) believes that the lack of social approval for women's careers insures that many able women will stop their professional training with a bachelor's degree, which will "entitle them to become the secretary of the male college graduate who has just collected his B.A." Jessie Bernard (Ibid.) has commented that "only the very best of the good women students go to graduate school." Of these, only the hardiest survive.

In a study on women's achievement and career motivation, Helen Farmer (1976, p. 12) reported that in 1970 women represented over 40 percent of the professional labor force but few were in the top positions in their chosen profession. And Maccoby and Jacklin state, "It is well known that men are much more heavily represented than women in the ranks of outstanding creative artists, writers, and scientists" (Maccoby and Jacklin, 1974, p. 111).

Data such as the preceding indicate that women are far from achieving equal status with men in almost all areas--career, leadership, education, etc. In general, society retains the attitude that the ideal women are keepers of the house and helpers of the male. A fairly clear dichotomy still exists between the family woman and the career woman. The roles are not conjoined for the female as they often are for the male. And there is every indication that society's attitude regarding women makes little exception for the gifted women. Indeed, the rules may even be more firmly imposed upon them because they are more likely to be capable of challenging the male bastions and thus upsetting the present attitudinal fulcrum.

Two beliefs which support society's attitude toward women and women's roles have been explored here: (1) beliefs regarding the differences in cognitive ability between the sexes and (2) the belief that women are by nature less competitive and assertive than men and that, in general, they are less achievement-oriented toward work and career. Both of these are based on sex-role stereotyping, expectancies based on sex; and although some differences may be seen to exist, research does not substantiate the opinion that they are inherent. In fact, sex dif-

ferences in areas of intellectual functioning have been found to be minimal, and most differences in personality characteristics can be explained by the differences in the socialization processes that the two sexes experience (Gage and Berliner, 1975, p. 439).

How, then, can we make role opportunities more equitable? In search of change agents, we naturally turn to the school, one of the major socializing agencies in our society. By school age, children are becoming very aware of society's role expectancies for them. And, indeed, if brighter children learn sex-role attitudes earlier, as Kohlberg and Zigler (1967) report, bright girls learn even earlier than other girls where society's rewards are to be found and thus at an extremely early age must begin to deal with the conflict between self and society. The school years will probably determine whether or not the gifts of talented girls will be accepted and nurtured to fruition.

What, then, becomes the responsibility of the school in helping the gifted girl to challenge society's expectations if she so desires? How does the school help her to see and seek a number of options in her life work, options that do not exclude wife and mother if a career is chosen and vice versa. The stand here is not to diminish the biological differences between the sexes or to say that women should not be wives, mothers, nurses but only that also they should have the choice of being a doctor, an executive, an engineer if they have the desire and capabilities. A female should have the same career choices that a male with her interests, aptitudes and abilities has; and she should make her choice intelligently, fully aware that she is making a choice and that it is hers alone to make.

It seems apparent that sex-roles are learned (and taught) in all the ways by which an individual learns--by example, by experience and by explanation. Thus the school must create awareness of sex discrimination by looking at all areas of education--classes, extracurricular activities, the curriculum, textbooks, guidance and counseling and especially the prevailing attitude toward girls in general and gifted girls in particular.

Several suggestions can be made for helping to eliminate sex-role stereotyping in a number of the areas where the implications for women may be most serious. This is only a beginning and requires substantial expansion. It is the responsibility of each individual and each school to personalize the attack against sex-role stereotyping.

> . . . Schools must examine their philosophies, objectives and goals; and teachers and staff must examine their own biases and feelings, first toward girls and women and then toward gifted girls. Practices which treat children differently so as to shape them toward behavior which limits the full development of their abilities and personalities as individuals must be eliminated. This is no small task, but it has been started and must continue. Perhaps a first step is to involve faculty--and later students and parents--in consciousness-raising experiences. Many administrators, teachers and guidance personnel are unaware of behavior on their part that leads to stereotyped sex-roles and discrimination against women. Many are also unaware of the special needs of gifted women.
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> . . . Gifted girls need to be identified and attended to. The Report to Congress on the Education of the Gifted and Talented (U.S. Commissioner of Education, 1972, p. 30) indicates that the gifted in schools are often academically and creatively neglected. It seems reasonable to assume on the face of data comparing the attention paid to boys and girls in school (Maccoby and Jacklin, 1974, p. 135) that if gifted males are neglected, gifted females are neglected even more.
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> . . . Children need many role models from which to choose. Opportunities should be made for girls to see and talk with women who are doctors, engineers, lawyers, as well as nurses, secretaries, etc. Special efforts should be made so that gifted girls may communicate with outstanding women in areas in which they have special interests and/or aptitudes.

. . . Gifted girls should be rewarded and reinforced, as well as boys, for excellence in any of the academic or extra-curricular areas. (All girls should be allowed entry to these areas.) Serbin and O'Leary (1975, p. 57) report that in their study of nursery school situations teachers gave boys two times more individual direction and physical and verbal rewards than they did girls. In addition, girls had tasks, such as stapling, done for them; boys were helped.

. . . Gifted girls must be given equal opportunity to practice behaviors for which they are likely to receive reward and reinforcement. They must not be excluded because they are girls. A pamphlet recently published by NOW (Report on Sex Bias in the Public Schools) includes the following testimony of a high school girl (West, 1975, p. 16): "Within my physics class last year, our teacher asked if there was anybody interested in being a lab assistant in the physics lab; and when I raised my hand, he told all the girls to put their hands down because he was only interested in working with boys."

. . . Teachers and other school personnel can indicate to gifted girls that they are as likely to succeed in a career as a boy with comparable abilities. Robert Rosenthal (1968) believes that teachers can affect a student's will to fail or will to achieve; he has reported finding teacher expectation as one of the most important determinants of student achievement.

. . . All girls must be encouraged to look far beyond the regular textbooks for career models and for insight into possible careers. Textbooks are blatantly sixist and most studies of children's books and classroom texts (Feminists on Children's Media, 1971; Krisof, 1975; Trecker, 1975) reveal that girls are shown in traditional roles, rarely able to solve problems, admiring males and, for the most part, serving men and enjoying success vicariously. Books must be found (and written) which applaud women in general, but specific books for women with specific gifts must also be acquired. For example, a recent publication, Women Artists: 1550-1950 (Harris and Nochlin, 1976), reviews the work of some 160 paintings by women artists over the last four centuries. Biographical accounts reveal how these talented, precocious women became artists despite immense disadvantages, most of them imposed by a male culture. It is the kind of work a gifted woman artist might wish to read. Hopefully, similar works related to women in other fields will be appearing.

. . . Gifted women should be introduced to the works of women writers of the Twentieth Century, including the feminists and leaders of The Movement such as Doris Lessing, Mary McCarthy, Dorothy Parker, Sylvia Plath and Virginia Wolf. This is not to

push them toward The Movement of Women's Liberation but only to increase their awareness of women's position in society and the ways in which the traditional roles are being challenged. A female may choose to be traditional, but she should be aware that she has a choice. She should also be aware of the discrimination and challenge she may encounter if she pursues a more innovative role.

. . . Sexist terms such as "sissy", "tomboy", "chick" should be avoided. In fact, a girl acting in tomboy fashion (but not being labeled one) might indicate a precocious child.

> According to data from the Fels Research Institute, the girls whose I.Q. increases from ages 6 to 10, like that of the boy, is likely to be competitive, independent, dominant. In a study by Helson one cluster which had consistent association with creativity in college women was a tomboy cluster (Baumrind, 1975, p. 63).

Maccoby (1963) also quotes a Fels Institute researcher as saying that to be an intellectual person, a woman "must have been a tomboy at some point in her childhood."

. . . Girls who work independently, are adventurous, goal-oriented, ambitious, direct and logical should be accepted as boys would be who have those same qualities. Research indicates that these are characteristics most often ascribed to males and can be clearly seen as crucial for success in the present socioeconomic system (Bernard, 1976, p. 12).

. . . Girls need to be allowed to try out behaviors that are traditionally considered male: playing marbles, playing soccer, earning money, taking drafting or mechanical arts.

. . . Girls need to be offered a variety of sports, and a girl who excels should be encouraged the same as a boy would be. Despite Title IX affirmative action efforts, girls are still receiving a great deal of discrimination in the area of athletics. A recent study of a school district in Texas is not atypical. It was found that four senior and seven junior high schools had $1,000,000 worth of athletic fields, gymnasiums and equipment for boys. Tennis balls were furnished for the girls (Education A Workshop Guide, 1976, p. 111-2).

. . . Teachers and staff can support girls who wish to take traditionally male courses.

. . . Girls who do well in math or science should especially be encouraged to pursue their interest in these areas. All girls who are considering higher education should be given information regarding the possible consequences of not taking high school math, algebra and trigonometry.

> In most universities and colleges without four years of high school math, it is impossible to enter engineering, computer science, economics, business, mathematics or most science fields. Females are effectively excluded from many fields before they enter college because they do not have the prerequisites (Ibid., p. 1-3).

A study of college freshmen at Berkeley in 1973 found that only eight percent of the women had four years of high school mathematics compared to 57 percent of the male freshmen. As a result 92 percent of the freshmen women could major in only five out of 20 available fields. The absence of trigonometry in their high school career was particularly damaging for the freshmen women (Ibid.). Math, in fact, has been identified as the critical factor which has successfully blocked women from entering many professional fields and thus keeping them in lower echelon positions and with lower median incomes (Ernest, 1976).

. . . Gifted girls should receive as much help as gifted boys in sorting out career options. (And both should receive as much time as do the other students.)

. . . Gifted girls need to explore alternatives to marriage immediately following high school and to openly confront their possible fear of success in career fields. The President's Commission on the Status of Women reported in 1968 that among the top 10 percent of high school seniors there were twice as many girls as boys with no college plans (West, 1976, p. 8). One gifted woman history professor (Astin, 1969, p. 126) states, "Perhaps women will use their talents better when they fully realize that 'to get married and live happily ever after' is not a goal that is directly achievable; it is more likely to be the by-product of an interesting and productive life."

. . . Gifted girls with special creative abilities who wish to become financially independent but who do not wish to attend college might consider trying to support themselves by working in those areas where their talents lie instead of allowing the creativity to become secondary to a job, such as a clerical one. Maccoby and Jacklin (1974, p. 163) remind readers that for many of the greatest creative genuises (e.g. Mozart, Goya, Michelangelo) their talent was their means of earning a living. These geniuses produced abundantly to support themselves and to fulfill the demands of their jobs as well as to respond to that special something within themselves. Maccoby and Jacklin (Ibid.) note that "women have seldom had this kind of pressure" and suggest that having it might be good for some.

> . . . The school may need to work with parents to help them appreciate the giftedness of a daughter. Studies have indicated that parents frequently expect sons to go to college, but not necessarily daughters. It may also be necessary to help parents understand that the giftedness may not be amenable to college but will instead demand other routes.

By attacking sex-role stereotyping in ways such as these, schools can assume a leadership position in helping to change society's attitudes and in creating better understanding in two very important areas--the role of women and the role of the gifted.

All girls and boys must have images in their heads regarding who they are, what they want to be and what they feel they can become. Girls' and women's images should be no more limited in scope than the men's and boys'. And the gifted girl should not have to struggle with fear that career success for her may rule out family and romantic success. She may choose one or both, but she should choose knowing that the choice exists--and that she can be whatever her capacities allow. She should be limited only by herself.

Perhaps the ideal to which we may be striving is most closely seen in what is termed "psychological androgeny." As defined by Sandra Bem (1976, p. 47), psychological androgeny benefits male and female. Her thesis is that feminine and masculine qualities can exist in the same individual, promoting flexible behavior adaptive to situations rather than stereotyped expectations." Thus in appropriate situations males may be tender, nurturing, emotional; and females may be aggressive, competitive and nonemotional. When appropriate the qualities reverse. It is doing away with an expected male or female characteristic and looking instead for a more actualized person who possesses at any given

time the best characteristics of both sexes. Possibly psychological androgeny is a step closer to maximizing the human potential, a potential as yet largely unrealized but needed with increasing urgency to deal with the complex problems of today's world.

By its limited definition of the female role, society has been depriving itself of a tremendous human resource. What the world has missed in science, technology, the arts will never be known. But more important, society has been denying the gifts and thus the fulfillment of a substantial number of individuals. The gifts have been given to both men and women. Let us see that all are opened.

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